

UTAH OIL AND GAS CONSERVATION COMMISSION

REMARKS: WELL LOG _____ ELECTRIC LOGS _____ ☒ WATER SANDS _____ LOCATION INSPECTED _____ SUB. REPORT/abd. _____

Am. - Release
 Effective date 11-84 Operator name change.
 870116 Oper chg *Wm to ANR* eff 12/1/86

DATE FILED 4-2-70

LAND: FEE & PATENTED ☒ STATE LEASE NO. _____

PUBLIC LEASE NO. _____

INDIAN _____

DRILLING APPROVED: 4-2-70

SPUDDED IN: _____

COMPLETED: _____ PUT TO PRODUCING: _____

INITIAL PRODUCTION: _____

GRAVITY A.P.I. _____

GOR: _____

PRODUCING ZONES: _____

TOTAL DEPTH: _____

WELL ELEVATION: _____

DATE ABANDONED: TA 9-13-83

FIELD: Altamont

UNIT: _____

COUNTY: Duchesne Lake Fork 2-23BH

WELL NO. ~~SHELL BROTHERSON FEE #1~~ 23BH

API NO. 43-013-30038

LOCATION 1985' FT. FROM (N) LINE, 2131'

FT. FROM (E) LINE. SW SW NE 1/4 1/4 SEC. 23

TWP. _____

RGE. _____

SEC. _____

OPERATOR *ANR Limited*

TWP. _____

RGE. _____

SEC. _____

OPERATOR: *Wm to ANR*

GEOLOGIC TOPS:

QUATERNARY	Star Point	Chinle	Molas
Alluvium	Wahweap	Shinarump	Manning Canyon
Lake beds	Masuk	Moenkopi	Mississippian
Pleistocene	Colorado	Sinbad	Humburg
Lake beds	Sego	PERMIAN	Brazer
TERTIARY	Buck Tongue	Kaibab	Pilot Shale
Pliocene	Castlegate	Coconino	Madison
Salt Lake	Mancos	Cutler	Leadville
Oligocene	Upper	Hoskinnini	Redwall
Norwood	Middle	DeChelly	DEVONIAN
Eocene	Lower	White Rim	Upper
Duchesne River	Emery	Organ Rock	Middle
Uinta	Blue Gate	Cedar Mesa	Lower
Bridger	Ferron	Halgaite Tongue	Ouray
Green River	Frontier	Phosphoria	Elbert
	Dakota	Park City	McCracken
	Burro Canyon	Rico (Goodridge)	Aneth
	Cedar Mountain	Supai	Simonson Dolomite
	Buckhorn	Wolfcamp	Sevy Dolomite
	JURASSIC	CARBONIFEROUS	North Point
Wasatch	Morrison	Pennsylvanian	SILURIAN
Stone Cabin	Salt Wash	Oquirrh	Laketown Dolomite
Colton	San Rafael Gr.	Weber	ORDOVICIAN
Flagstaff	Summerville	Morgan	Eureka Quartzite
North Horn	Bluff Sandstone	Hermosa	Pogonip Limestone
Almy	Curtis		CAMBRIAN
Paleocene	Entrada	Pardox	Lynch
Current Creek	Moab Tongue	Ismay	Bowman
North Horn	Carmel	Desert Creek	Tapeats
CRETACEOUS	Glen Canyon Gr.	Akahi	Ophir
Montana	Navajo	Barker Creek	Tintic
Mesaverde	Kayenta		PRE-CAMBRIAN
Price River	Wingate	Cane Creek	
Blackhawk	TRIASSIC		

26
127
4
308

25
260

FILE NOTATIONS

Entered in NID File
Location Map Pinned
Card Indexed

Checked by Chief
Approval Letter
Disapproval Letter

COMPLETION DATA:

Date Well Completed
OW..... WW..... TA.....
GW..... OS..... PA.....

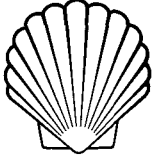
Location Inspected
Bond released
State or Fee Land

LOGS FILED

Driller's Log.....
Electric Logs (No.)
E..... I..... Dual I Lat..... GR-N..... Micro.....
BHC Sonic GR..... Lat..... Mi-L..... Sonic.....
CBLog..... CCLog..... Others.....

3.31.76 Verbal approval to spend - Paul Buckell

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SHELL OIL COMPANY

POST OFFICE BOX 999
BAKERSFIELD, CALIFORNIA 93301

MAR 31 1970

Application for Permit to Drill
Shell Brotherson No. 1
Duchesne County, Utah

State of Utah
Division of Oil and Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116

Gentlemen:

Attached in triplicate is our application for permit to drill
(and accompanying location plats) Brotherson No. 1, an exploratory
test in the SW/4 of the NE/4 of Section 23, T. 2 S., R. 4 W.,
Duchesne County, Utah.

Very truly yours,

F. A. MacDougall
Division Production Manager
San Joaquin Division

Attachments

STATE OF UTAH

OIL & GAS CONSERVATION COMMISSION

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL WELL ☐GAS WELL ☐

OTHER Exploratory

SINGLE ZONE ☐MULTIPLE ZONE ☐

2. NAME OF OPERATOR

Shell Oil Company

3. ADDRESS OF OPERATOR

P. O. Box 999, Bakersfield, California 93302

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*)

At surface

1985' from the north line and 2131' from the east line

of Section 23, T. 2 S., R. 4 W., U.S.M.

At proposed prod. zone

orthogonal
SWSWNE ✓

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

Five miles south of Altamont.

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST PROPERTY OR LEASE LINE, FT. 1985'

(Also to nearest drlg. line, if any)

18. DISTANCE FROM PROPOSED LOCATION*

TO NEAREST WELL, DRILLING, COMPLETED, OR APPLIED FOR, ON THIS LEASE, FT.

N.A.

16. NO. OF ACRES IN LEASE

940

19. PROPOSED DEPTH

12,350 ✓

17. NO. OF ACRES ASSIGNED TO THIS WELL

40 acres ✓

20. ROTARY OR CABLE TOOLS

Rotary ✓

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

GR. 6288'

22. APPROX. DATE WORK WILL START*

April 15, 1970 ✓

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
12-1/4"	9-5/8" ✓	36# ✓	2000' ✓	750 sacks. ✓

1. Drill 12-1/4" hole to 2000' and cement 9-5/8" surface casing at 2000' with 750 sacks.
2. Install ram type and hydrill blowout preventers. ✓
3. Drill 8-3/4" hole to 12,350'. ✓
4. If protective casing is required before reaching total depth, cement 7" casing and drill 6-1/8" hole to 12,350'. ✓

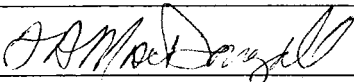
Note: We request that this information be treated as confidential. ✓

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

MAR 31 1970

SIGNED



TITLE

Division Prod. Mgr.

DATE

(This space for Federal or State office use)

PERMIT NO.

43-013-3003P

APPROVAL DATE

APPROVED BY

TITLE

DATE

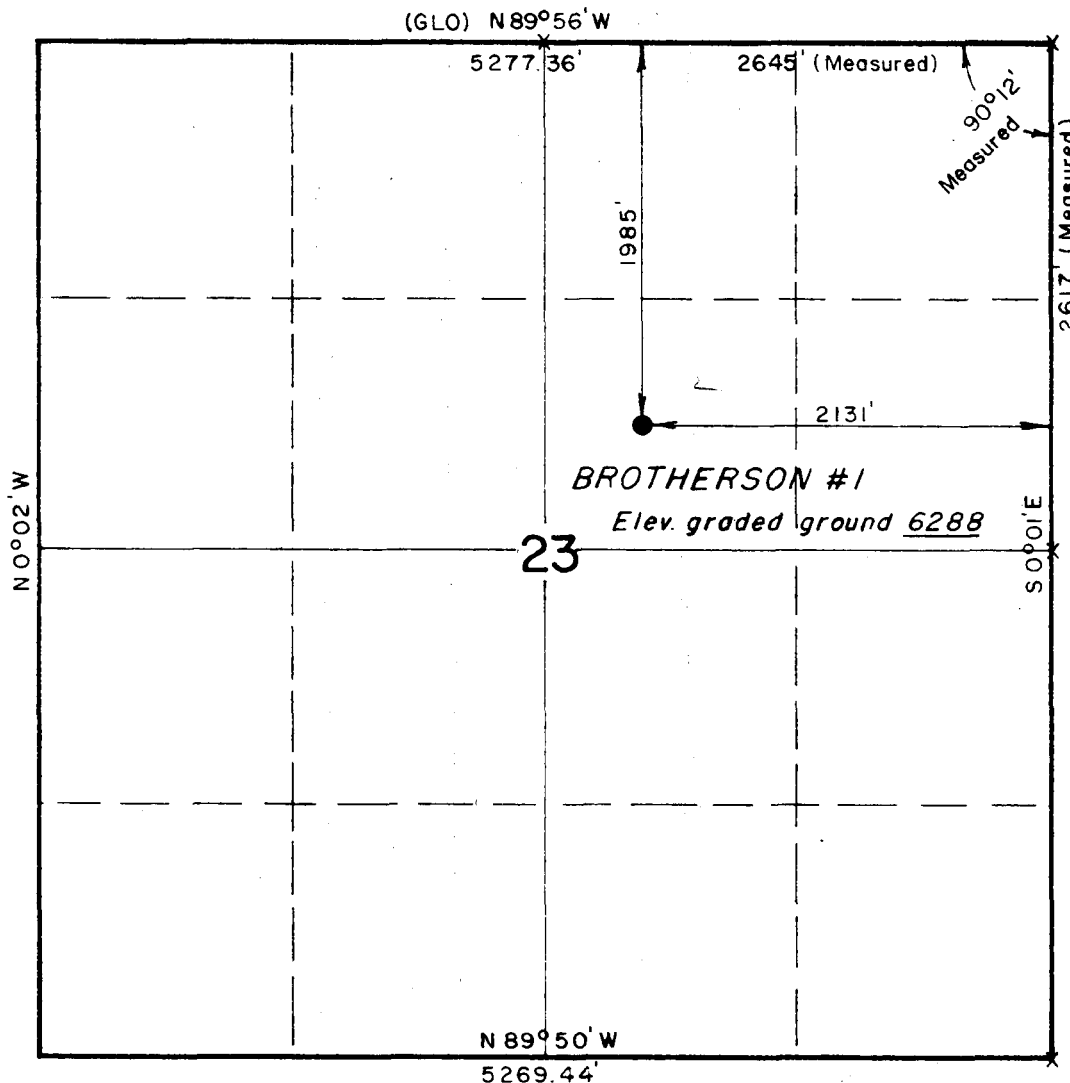
CONDITIONS OF APPROVAL, IF ANY:

T 2 S, R 4 W, USB&M

PROJECT

SHELL OIL COMPANY

WELL LOCATION AS SHOWN IN THE
SW 1/4 NE 1/4, SECTION 23, T 2 S, R 4 W,
USB & M, DUCHESNE COUNTY, UTAH.



X = Corners Located (Stone)



CERTIFICATE

I, the undersigned, do hereby certify that the above plat was prepared from
the notes of a survey made by me or under my supervision and that the same are true and correct to the
best of my knowledge and belief.

Gene Stewart

REGISTERED LAND SURVEYOR
REGISTRATION NO. 3154
STATE OF UTAH

UINTAH ENGINEERING & LAND SURVEYING
P.O. BOX Q - 110 EAST - FIRST SOUTH
VERNAL, UTAH - 84078

SCALE	1" = 1000'	DATE	25 March 1970
PARTY	GS-HM-RC	REFERENCES	GLO Township Plat
WEATHER	Windy & Cold	FILE	SHELL

April 2, 1970

Shell Oil Company
Box 999
Bakersfield, California 93301

ATTENTION: Mr. F. A. MacDougall

Re: Well No. Shell Brotherson Fee #1
Sec. 23, T. 2 S, R. 4 W, USM
Duchesne County, Utah

Dear Sir:

Insofar as this office is concerned, approval to drill the above mentioned well is hereby granted in accordance with verbal approval given by Mr. Paul Burchell on March 30, 1970.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL-Chief Petroleum Engineer
HOME: 277-2890
OFFICE: 328-5771

This approval terminates within 90 days if the well has not been spudded-in within said period.

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your co-operation with respect to completing this form will be greatly appreciated.

The API number assigned to this well is 43-013-30038.

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

CLEON B. FEIGHT
DIRECTOR

CBF:sd

THE STATE OF UTAH
DIVISION OF OIL AND GAS CONSERVATION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> Exploratory		5. LEASE DESIGNATION AND SERIAL NO. N.A.
2. NAME OF OPERATOR Shell Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N.A.
3. ADDRESS OF OPERATOR P.O. Box 999, Bakersfield, California 93302		7. UNIT AGREEMENT NAME N.A.
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' from the North line and 2131' from the East line of Section 23, T. 2 S., R. 4 W., U.S.M.		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO. A.P.I. 43-013-30038		9. WELL NO. 1
15. ELEVATIONS (Show whether OF, RT, GR, etc.) KB 6303'		10. FIELD AND POOL, OR WILDCAT Wildcat
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 23, T. 2 S., R. 4 W., U.S.M.
		12. COUNTY OR PARISH Duchesne
		13. STATE Utah

18. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input checked="" type="checkbox"/> Monthly Report of Operations	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Month of May 1970: Spudded well 1:00 A.M., 5-14-70, with 12-1/4" bit. Drilled to 2450'. On 5-19-70 ran SP-DIL and GR-BHC. Ran and cemented 61 joints of 9-5/8", 36#, J-55, ST&C casing at 2450' with 760 sacks of cement. On 5-27-70 ran D.S.T. No. 1 from 4840 to 4953'. Recovered 64 bbls. of water cut mud with trace oil. On 5-29-70 cut core No. 1 from 4953-4983'. Recovered 30'. Lost returns. On 5-30-70 ran open-ended drill pipe to 4794' to place cement plug No. 1. Pumped in 75 sacks of Class "G" cement with 25 lbs/sack Gilsonite and 4% gel. W.O.C. 8 hrs. Cleaned out cement from 4625-4825'. Cleaned out to 4983', lost returns. On 5-31-70 ran open-ended drill pipe to 4986' to place plug No. 2. Pumped in 75 sacks of Class "G" cement with 25 lbs/sack Gilsonite and 4% gel. W.O.C. 8 hrs. Drilled out cement from 4782-4976'. Drilled to 5253'. Depth at month's end 5253'.

NOTE: We request this information be treated as confidential.

18. I hereby certify that the foregoing is true and correct

SIGNED

Ormaez Ingall

TITLE Division Production Manager DATE JUN 19 1970

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

Conf

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

Salt Lake City 14, Utah

REPORT OF OPERATIONS AND WELL STATUS REPORT

State Utah County Duchesne Field or Lease No. Uinta Basin

The following is a correct report of operations and production (including drilling and producing wells) for
October _____, 19 70

Agent's address 1700 Broadway
Denver, Colorado, 80202

Company SHELL OIL COMPANYSigned *John J. ...*Phone 303-222-8454Agent's title Division Services Manager

State Lease No. _____ Federal Lease No. _____ Indian Lease No. _____ Fee & Pat. ☐

Sec. & ¼ of ¼	Twp.	Range	Well No.	*Status	Oil Bbls.	Water Bbls.	Gas MCF's	REMARKS (If drilling, Depth; if shut down, Cause; Date & Results of Water Shut-Off Test; Contents of Gas; and Gas-Oil Ratio Test)	
Sec. 23 SW¼NE¼ 1985' S & 2131' W of NE Cor.	2S	4W	1-23-B4	-	-	-	-	No. of Days Produced	
								-	<u>Brotherson Lease</u> <u>Testing - Depth 11,232'</u> <u>Fee Land</u>

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

Salt Lake City 14, Utah

REPORT OF OPERATIONS AND WELL STATUS REPORT

State Utah County Duchesne Field or Lease No. Uinta Basin

The following is a correct report of operations and production (including drilling and producing wells) for

November, 19 70

Agent's address 1700 Broadway Company Shell Oil Company

Denver, Colorado, 80202

Signed *Reddyson*

Phone 30--222-8454 Agent's title Division Services Manager

State Lease No. Federal Lease No. Indian Lease No. Fee & Pat. ☐

Sec. & ¼ of ¼	Twp.	Range	Well No.	*Status	Oil Bbls.	Water Bbls.	Gas MCF's	REMARKS (If drilling, Depth; if shut down, Cause; Date & Results of Water Shut-Off Test; Contents of Gas; and Gas-Oil Ratio Test)	
								No. of Days Produced	
Sec 23 SW¼NE¼ 1985' S & 2131' W of NE Cor.	2S	4W	1-23-B4	-	-	-	-	-	Brotherson Lease Testing - Depth 11,232' Fee Land

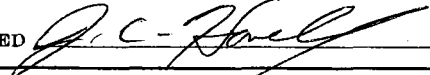
SUBMIT IN DUPLICATE*

STATE OF UTAH

(See other instructions on reverse side)

OIL & GAS CONSERVATION COMMISSION

WELL COMPLETION OR RECOMPLETION REPORT AND LOG *

1a. TYPE OF WELL: OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> DRY <input type="checkbox"/> Other _____						5. LEASE DESIGNATION AND SERIAL NO. Patented	
b. TYPE OF COMPLETION: NEW WELL <input checked="" type="checkbox"/> WORK OVER <input type="checkbox"/> DEEP-EN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> DIFF. RESVR. <input type="checkbox"/> Other _____						6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
2. NAME OF OPERATOR Shell Oil Company (Rocky Mountain Division Production)						7. UNIT AGREEMENT NAME	
3. ADDRESS OF OPERATOR 1700 Broadway, Denver, Colorado 80202						8. FARM OR LEASE NAME Brotherson	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)* At surface 1985' FNL and 2131' FEL Sec 23 At top prod. interval reported below At total depth						9. WELL NO. 1-23B4	
14. PERMIT NO. DATE ISSUED API 43-013-30038 4-2-70						10. FIELD AND POOL, OR WILDCAT No. Uinta Basin	
15. DATE SPUDDED 5-14-70						11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA SW/4 NE/4 Section 23-T 2S-R 4W	
16. DATE T.D. REACHED 8-16-70		17. DATE COMPL. (Ready to prod.) 1-29-71		18. ELEVATIONS (DF, RKB, RT, GR, ETC.)* 6288 GL, 6303 KB		19. ELEV. CASINGHEAD 12'	
20. TOTAL DEPTH, MD & TVD 11,232		21. PLUG, BACK T.D., MD & TVD 11,222		22. IF MULTIPLE COMPL., HOW MANY*		23. INTERVALS DRILLED BY → Total	
24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)* As per attached report						25. WAS DIRECTIONAL SURVEY MADE No	
26. TYPE ELECTRIC AND OTHER LOGS RUN DIL/SP, Int BHCS/CAL/GR, PL/ML, CDD, FDC/GR/CAL, SNP/GR/CAL, HRD, and CBL						27. WAS WELL CORED Yes	
28. CASING RECORD (Report all strings set in well)							
CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD		AMOUNT PULLED	
9 5/8"	36#	2,450'	12 1/4"	760 SX		0	
5" Liner	18#	11,232'	6 1/4"	180 SX		0	
29. LINER RECORD							
SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	30. TUBING RECORD		
					SIZE	DEPTH SET (MD)	PACKER SET (MD)
31. PERFORATION RECORD (Interval, size and number)				32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.			
As per attachment				DEPTH INTERVAL (MD)		AMOUNT AND KIND OF MATERIAL USED	
33.* PRODUCTION							
DATE FIRST PRODUCTION 1-29-71		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump) Flowing				WELL STATUS (Producing or shut-in) Producing	
DATE OF TEST 2-3-71	HOURS TESTED 24	CHOKE SIZE 18/64"	PROD'N. FOR TEST PERIOD →	OIL—BBL. 185	GAS—MCF. 200	WATER—BBL. 31	GAS-OIL RATIO 1081
FLOW. TUBING PRESS. 250	CASING PRESSURE 800	CALCULATED 24-HOUR RATE →	OIL—BBL. 185	GAS—MCF. 200	WATER—BBL. 31	OIL GRAVITY-API (CORR.) 44°	
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY	
35. LIST OF ATTACHMENTS Well Log and History, Csg & Cmtg Detail							
36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records							
SIGNED 		TITLE Division Petroleum Engineer			DATE February 5, 1971		

*(See Instructions and Spaces for Additional Data on Reverse Side)

NEW OIL WELL		NO. UINTA BASIN
SHELL OIL COMPANY	LEAD SHELL-BROTHERSON	WELL NO. 1-23B4
	DIVISION ROCKY MOUNTAIN	ELEV 6303 KB
FROM: 7-1-70 - 2-4-71	COUNTY DUCHESNE	STATE UTAH

UTAH

NO. UINTA BASIN

Shell - Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9141/96/48/31 Coring. Dev: 1° at 9126 (30 min)
First report in Rocky Mountain Division
Located 1985' FNL and 2131' FEL Sec 23-T 2S-R 4W, U.S.M.,
Duchesne County, Utah.
Elev: 6288 GL
Shell Working Interest 100%
Drilling Contractor - Brinkerhoff Drlg Co.
Spudded 1 AM 5-14-70. Drilled to 9126' and circ samples
up. Began coring on Core No. 4 at 9126'. No mud lost last
24 hrs.
Mud: 9.7 x 44 x 8.0 (sal 1722) (Oil Trc) (LCM 8%)

JUL 1 1970

Shell - Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9159/96/49/18 Drilling.
DST NO. 3 7399-7550
Op 5 min, initial weak blow, increased to strong blow in 1
min. SI 120 min.
Op 120 min, initial weak blow, increased to strong blow in
1½ min. GTS in 61 min - TSTM. SI 240 min.
Recovered 2564' (34 bbls) sli mud and gas-cut oil. GV - 25°
API.
Sample chamber contained: 2.6 CF gas at 1325 psi
1746 cc's oil (25° API)
54 cc's mud and water
IHP 3681, IFP 482, ISIP 3792, FFP 1108, FSIP 3708, FHP 3677.
BHT - 139°F.

CORE NO. 4 9126-9159 Cut and rec'd 33'.
Sh, dk gry, partially fractured, w/fractures as follows:
open fractures 9126-9127, 9140-9144.3, tight fractures
9131-9132, 9134.5-9135, 9145.5-9146.3. All fractures
contained blk oil residue and all these shows had dull
gold fluor and excellent yellow strmg cut w/odor. Open
fractures contained calcite crystal growth, no gas shows
while coring.

Mud: 9.7 x 45 x 8.0 (Sal 1760) (LCM 10%) (Oil Trc)

JUL 2 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9490/96/53/331 Drilling. On 7-3-70, attempted to gain circ.
Drilled to 9168 and lost circ 21½ hrs. Attempted to regain
circ for 2½ hrs. On 7-4-70, regained circ at 4341. Staged
back for 15 hrs and drld 9 hrs. On 7-5 and 7-6-70, no mud
lost.
Mud: 9.6 x 42 x 8.6 (sal 1165 ppm)

JUL 6 1970

Shell-Brotherson -
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9622/96/54/132 Drilling. Lost approx 50 bbls mud at 9568
in last 24 hrs.
Mud: 9.6 x 48 x 5.2 (sal 2062 ppm) (LCM 18%) (Oil Trc)

JUL 7 1970

- (e) All acid (except last 5 bbls) should contain the following additives per 1,000 gals.: 3 gals. G-10, 3 gals. C-15, 3 gals. J-22, 30# OS-130 Wide Range Unibeads, and 30# OS-130 Button Unibeads.
- (f) All fluids should be heated to 80°F.
- (g) Place and hold 1,000 psi on tubing/casing annulus.
- (h) Flush tubing and casing below packer with 2,800 gals. fresh water containing 3 gals. G-10 per 1,000 gals.
- (i) If ball-out occurs, hold pressure on balls and perforations for three minutes before bleeding back to drop balls.

(11) Open well and flow. Swab if necessary to establish inflow rate and/or formation fluid characteristics.

(12) If water bearing obtain representative water samples for analysis.

(13) If oil bearing, conduct 2-3 day flow test, followed by BHP build-up.

(14) If water bearing or non-commercial oil, establish fluid injectivity before unseating packer. Inject at 1/4, 1/2, 1, 2, 4, 8 BPM obtaining record of stabilized rates and pressures.

~~(15) Pull tubing and packer.~~

* (16) ~~Run retrievable full-bore packer and retrievable bridge plug.~~ Set RBP at ±8,900' and RFBP at ±8,150'.

(17) Pressure test RBP, RFBP, and tubing to 5,000 psi with fresh water in hole. Dump several sacks of sand on RBP.

(18) With fresh water in tubing, perforate the following intervals using same charges and gun assembly as specified in step 8:

8304, 8305, 8306, 8307, 8308, 8309
8378, 8379, 8380, 8381, 8382, 8383, 8384, 8385, 8386, 8387, 8388, 8389
8444, 8445, 8446, 8447, 8448, 8449, 8450
8464, 8465, 8466, 8467, 8468
8474, 8475, 8476, 8477, 8478, 8479, 8480, 8481
8492, 8493, 8494, 8495, 8496, 8497, 8498
8508, 8509, 8510, 8511, 8512, 8513, 8514
8580, 8581, 8582, 8583, 8584
8597, 8598, 8599, 8600, 8601
8672, 8673, 8674, 8675, 8676, 8677, 8678, 8679, 8680

(19) Open well immediately. If well does not flow, swab well to establish inflow and to remove debris from perforations.

(20) Acid treat perforations 8304-8680 with 12,600 gals. 15% HCL as follows:

- (a) Pump 10 bbls acid
- (b) Drop one 7/8" (Sp. Gr. 1.24) RCN ball sealer followed by 2 bbls acid
- (c) Repeat step 20 (b) 141 times for a total of 142 balls and 284 bbls of acid
- (d) Pump 5 bbls acid without Unibeads

(e) Except for 2,850 gals. flush, the specifications outlined in steps 10 (e), (f), (g), (h), & (i) apply to this acid treatment

(21) Repeat steps 11, 12, 13 & 14.

* (22) After resetting RBP at $\pm 8,100'$ and RFBP at $\pm 7,100'$, pressure test same with 5,000 psi. ~~Dump several sacks of sand on RBP.~~

(23) With fresh water in tubing, perforate the following intervals using same charges and gun assembly as specified in step 8:

7263, 7264, 7265, 7266, 7267, 7268
7469, 7470, 7471, 7472, 7473, 7474, 7475
7480, 7481, 7482, 7483, 7484, 7485, 7486, 7487, 7488

(24) Open well immediately. If well does not flow, swab well to establish inflow and remove debris from perforations.

(25) Acid treat perforations 7263-7488 with 4,200 gals. 15% HCL as follows:

- (a) Pump 10 bbls acid
- (b) Drop one 7/8" (Sp. Gr. 1.24) RCN ball sealer followed by 2 bbls acid
- (c) Repeat step 25 (b) 41 times for a total of 42 balls and 84 bbls of acid
- (d) Pump 5 bbls acid without Unibeads
- (e) Except for 2,650 gals. flush, the specifications outlined in steps 10 (e), (f), (g), (h), & (i) apply to this acid treatment

(26) Repeat steps 11, 12, 13, & 14.

(27) Unseat FBRP and RBP and pull same.

(28) Prognosis for further work will follow.

EDM

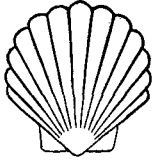
August 7, 1974

[Signature]
AB BLF

* Note Run Ball Catcher on BP, Do not cap BP w/ sand.

BROTHERSON 1-23B4
DRILLING MUD WEIGHTS

<u>DEPTH</u>	<u>MUD WEIGHT</u>	<u>GRADIENT</u>
700	9.0	.468
2,200	9.2	.478
2,450	9.3	.483
4,700	8.9	.462
5,250	8.7	.452
5,264	9.0	.468
5,400	8.8	.457
6,000	8.7	.452
7,000	8.9	.462
7,393	8.8	.457
7,550	9.3	.483
7,557	9.7	.504
7,925	9.6	.499
8,040	9.7	.504
9,140	9.7	.504
9,490	9.6	.499
10,065	9.7	.504
10,065	9.8	.509
10,065	10.2	.530
10,092	10.3	.535
10,504	10.5	.545
10,510	11.3	.587
10,531	11.4	.592
10,547	11.5	.597
10,740	12.2	.634
10,768	12.4	.644
10,833	12.8	.665
10,883	13.0	.675
11,107	13.5	.701
11,140	13.9	.722
11,218	13.9	.722
11,238	13.9	.722



SHELL OIL COMPANY

1700 BROADWAY
DENVER, COLORADO 80202

June 4, 1971

Subject: Brotherson 1-23B4
Section 23-T2S-R4W
SW NE Altamont Field
Duchesne County, Utah

Utah Oil & Gas Conservation Commission
1588 West North Temple
Salt Lake City, Utah 84116

Attention Mr. Cleon Feight

Gentlemen:

This is your authority to release all information pertinent to the above-captioned well.

Also enclosed is the breakdown of gas use in the Altamont Area which you requested.

Yours very truly,

For: R. A. Flohr
Division Production Manager
Rocky Mountain Division

MKG:ch

Attachments

Shell-Brotherson -
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9690/96/55/68 Drilling. Dev: 2 $\frac{1}{4}$ ° at 9632. No mud lost.
Mud: 9.6 x 45 x 7.0 (sal 1617 ppm) (LCM 17%) (Oil Trc)
JUL 8 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9818/96/56/128 Drilling. No mud lost in past 24 hrs.
Mud: 9.6 x 44 x 4.8 (sal 2310 ppm) (LCM 16%) (Oil Trc)
JUL 9 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

9948/96/57/130 Drilling. No mud lost for past 24 hrs.
Mud: 9.6 x 45 x 9.0 (sal 1617 ppm) LCM 13 $\frac{1}{2}$ % (Oil 1%)
JUL 10 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,065/96/60/117. Staging in. Drilled to 10,065.
Fighting lost circ w/well trying to flow. Lost approx
600 bbls mud in past 24 hrs. JUL 13 1970
Mud: 9.7 x 47 x 12.6 (sal 2310 ppm) (LCM 25%) (Oil 2%)

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350 Green River-
Wasatch Test

• TD 10,065. PB 9905/96/63/0. Laying down drill collars.
Completed running logs as follows: DIL/SP, INT-BHCS/Cal/GR,
PL/ML, CDD, FDC/GR/Cal. JUL 16 1970

NO. UINTAH BASIN

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

• TD 10,065. PB 9905/96/64/0. Prep to run 7" csg.
Conditioning hole. Laying down drill pipe.
Mud: 9.8 x 42 x 8.5. JUL 17 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River
Wasatch Test

TD 10,065. PB 9905/96/67/0. Picking up 3 $\frac{1}{2}$ " drill pipe.
Finished conditioning mud, laid down drill pipe. Ran
217 jts 7", 23# S-95 ST&C csg to 9905. Cmt'd w/525 sx cmt.
Nippled up 7" csg, changed to 3 $\frac{1}{2}$ " rams and BOP. Cleaned
mud tanks. Changed to 5" liners in No. 1 pump. Ran
temperature survey, indicated good cmt @ 5950. Tested
blind rams to 1500 psi. Held ok. Picked up 21 4 3/4"
OD drill collars. JUL 20 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

Depth 10,065. PB 9905/96/68/0. Drilling cmt & csg shoe.
Finished picking up 3 $\frac{1}{2}$ " drill pipe. Bit stopped @ 9799'.
Circ and raised mud weight to 10.2#. Drlgd cmt and baffle
collar @ 9802. Press tested pipe rams and hydrill to
1500 psi. Held okay. JUL 21 1970
Mud: 10.2 x 46 x 10.8 (sal 1155).

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,065/96/61/0. Pulling open end drill pipe.
With open end drill pipe hung @ 10,055, cmt'd w/50 sx
1:1 poz, w/0.2% HR-4 (Hal). Displaced to 9905 w/138
bbls mud. Cmt in place @ 6:30 P.M. 7/13/70. JUL 14 1970
Mud: 9.8 x 47 x 9.0 (sal 1617) (LCM 22%) (Oil 2%).

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

TD 10,065. PB 9905/96/62/0. Logging.
Pulled open end drill pipe. Ran back w/rerun bit #14.
Broke circ at 5,000 & 7,400. Located stringers of cmt
@ 9889, firm cmt @ 9905. Gas to surface in one-half
hour. Pulled 20 stands, waited one hour. Ran back to
bottom. Circ and conditioned mud. Spotted 280 bbls 11# pill.
Mud: 9.8 x 42 x 8.5 (sal 1465) (LCM 16%) (Oil 3%). JUL 15 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,092/96/69/27. Coring.
Drilled cmt 9905 to 10,065. Drilled ahead to 10,071 -
6 feet total. Cored 10,071 to 10,092 - 21 feet total.
Lost circ material - zero.
Mud: 10.1 x 48 x 9.4 (sal 1623) (Oil nil). JUL 22 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,127/96/70/35. Taking DST #4 Core #5 from 10,071 to 10,127.
Cut 56' - full recovery. DST #4 9865 to 10,127. JUL 23 1970
Mud: 10.3 x 45 x 9.4 (sal 1623) (LCM 0) (Oil nil).

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,175/96/71/48. Drilling.
DST #4: 9905-10,127 (bottom of 7" csg @ 9905; hook wall
pkr @ 9865.)
Open 10 min, SI 120 min, open 60 min, SI 240 min.
Recovered 1590' (12.2 bbls) WC; 5400' (40 bbls) G & MCO; 540'
(4 bbls) water (Rw=0.19 @ 90°)
IHP 5280; IFP 1213-2459; ISIP 4991 (stab.); FFP 2459-3497
(rising); FSIP 4701 (stab.); FHP 5280. BHT 180°. JUL 24 1970
Core #5 10,071 to 10,127. Cut & rec'd 56'.
Gy to blk. Sh w/occ. 1 to 2" stringers of slt st tight.
Occ 45° tight frac's 10,076 to 10,077. No visible shows.
Mud: 10.3 x 46 x 9.6 (sal 1650) (LCM 0) (Oil nil).

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,422/96/74/247. Drilling.
Mud: 10.4 x 50 x 8 (sal 1650) (Oil 1%) (plastic vis 30)
(yield point 12). JUL 27 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,504/96/75/82. Prep to core. Circulating samples.
Mud: 10.5 x 47 x 9.2 (sal 1650) (LCM 0) (Oil 1.5)
(plastic vis 22) (yield point 7). JUL 28 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,510/96/76/6. Coring.
Mud: 11.3 x 52 x 8.2 (sal 2723) (LCM 0) (Oil 2%)
(plastic vis 30) (yield point 6).

JUL 29 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,531/96/77/21. Running DST #5.
Core #6 10,504-10,531 cut & rec'd 27' very dark brown to
black shale. Abundant pyrite in thin (1mm to 1cm)
laminations. Occasional stylolitic fracture filling
calcite. Vertical fracs approx 2" long: 10,507-10,508;
10,524-10,525. Gas bleeding from core.
Mud: 11.4 x 45 x 8.6 (sal 1650) (LCM 0) (Oil 2%)
(plastic vis 18) (yield point 8).

JUL 30 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,547/96/78/16. Drilling.
DST #5 10,485-10,531.
Op 5 min, strong blow in 2 min. Inc slightly throughout. SI
120 min (GTS 5 min into shut in - continued throughout). Op
60 min, strong blow immed. Inc throughout. 15 min = 2.8 MCFPD,
60 min = 7.0 MCFPD SI 240 min.
Recovered 4050' as follows: 12 bbls wtr cushion (Rw=8.8 @ 72°F)
13 bbls HGCO, 5 bbls G&OCM.
Sample Chamber: 5.5 cu ft gas @ 1175 psi, 1200 cc oil, Gv 32.8°
API, no wtr. Outside recorder @ 10,493: IHP=6244, IFP=784,
ISIP=6208, FFP=1,744, FSIP=6,258, FHP=6,258
BHT=219°F.

JUL 31 1970

Mud: 11.5 x 44 x 9 (sal 1650) (Oil 1%) (plastic vis 23)
(yield point 5).

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,740/96/81/193. Running DST #6 from 10,550-10,740.
Mud: 12.2 x 46 x 8.4 (sal 1650) (LCM 0) (Oil 0)
(plastic vis 20) (yield point 7).

AUG 3 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,768/96/82/28. Drilling.
DST #6 10,550-10,740
Op 5 min very weak blow throughout. SI 90 min. Op 60 min.
Op w/very weak blow. Weak blow in 30 min. Increased to
6.4 MCFPD air in 50 min, 8.0 MCFPD in 60 min. No GTS.
SI 180 min.
Recovered: 10 bbls wtr cushion (Rw=8.0 @ 76°F), 3 bbls G&OCM.
Sample Chamber: 2.5 cu ft gas @ 600 psi, 1570 cc oil, 35.6°
API, 200 cc mud, Rmf=2.0 @ 72°F.
Inside Recorder: IHP = 6714, IFP = 709, ISIP = 6751 (Inc.),
FFP = 820, FSIP = 6529 (Inc.), FHP = 6714, BHT = 218°F.
Mud: 12.4 x 46 x 8 (sal 1650) (LCM 0) (Oil 1%) (plastic vis 24)
(yield point 8).

AUG 4 1970

Shell-Brotherson
No. 1-23B4
(WC) Brinkerhoff
12,350' Green River-
Wasatch Test

10,833/96/83/65. Drilling.
Mud: 12.8 x 47 x 7.8 (sal 1650) (LCM 0) (Oil 0) (plastic
vis 28) (yield point 10).

AUG 5 1970

Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Wasatch Test	10,883/96/84/50. Drilling. Mud: 13 x 44 x 8 (sal 1485) (LCM 0) (Oil nil) (plastic vis 22) (yield point 6). W & L & W
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	10,918/96/85/35. Tripping. Mud: 13 x 47 x 7.6 (sal 1650) (LCM 0) (Oil nil) (plastic vis 34) (yield point 6). AUG 7 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Wasatch Test	11,107/96/88/189. Drilling Mud: 13.5 x 46 x 5.6 (sal 1650) (LCM 0) (Oil nil) (plastic vis 30) (yield point 10). AUG 10 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,140/96/89/33. Mixing mud. Lost circ while going in hole with DST #7. Mud: 13.9 x 47 x 5.8 (sal 1650) (LCM 10%) (Oil - trace) (plastic vis 20) (yield point 5). AUG 11 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,140/96/90/0. Circ. Pulled DST tools. Mixed mud and LCM for volume. Circ 7" csg shoe @ 9905. Mud: 13.8 x 49 x 8.6 (sal 1475) (LCM 15%) (Oil trace) (plastic vis 32) (yield point 14). AUG 12 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350 Green River- Wasatch Test	11,154/96/91/14. Drilling. AUG 13 1970 Mud: 13.9 x 53 x 8.6 (sal 1650) (LCM 14%) (Oil trace) (plastic vis 28) (yield point 6).
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,218/96/92/64. Drilling. Mud: 13.9 x 70 x 7.4 (sal 1650) (LCM 17%) (Oil 1%) (plastic vis 61) (yield point 24). AUG 14 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,238/96/95/20. Pulling to run 5" liner. Drilled 6 1/4" hole to 11,230'. Conditioned mud. Ran logs as follows: BHCS/GR/cal, DIL/cal/SP, PLML/cal, SNP/GR/cal, HRD, Sidewall core slicer. Measured in, corrected hole depth to 11,238'. Circ and conditioning mud for liner. AUG 17 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,238/96/96/0. Tripping in w/6 1/2" bit and Bkr scraper. Ran 41 jts (1743') of 5" 18# N-80 flush joint hydril liner including Brown hanger & equipment to 11,232', top of liner hanger @ 9489'. Cmt w/25 sx 25 - 75 pozmix, 4% gel, tailing in w/155 sx class "G" cmt, 15% salt, 12 1/2#/sx Gilsonite and .6% HR4. Press plug to 2000 psi w/102 bbls mud. Good circ throughout. Cmt in place 10:30 p.m. 8/17/70. Mud: 13.9 x 54 x 5.0 (sal 1570) (LCM 14%) (Oil 1%+) (plastic vis 37) (yield point 10). AUG 18 1970

Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,238/96/97/0. Circ bottoms up. CO 48' of cmt and plugs. Drld to 11,150'. Mud: 12.2 x 45 x 4.6 (sal 1705) (LCM 7%) (Oil 2%) (plastic vis 36) (yield point 4). AUG 19 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,232/96/98/0. Logging. Change from mud to water. Ran (OWP) PDC log. Mud: Native. AUG 20 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River- Wasatch Test	11,232/96/99/0. Laying down drill pipe. Ran (OWP) logs as follows: CBL logs #1 & #2, 4,900- 11,159 @ 2000 psi. Ran CBL #3 in 7" csg from 5450- 9489. Cmt good to bottom. Ran (Schl & Shell) velocity log. Tripped in and changed from fresh wtr to chem treated wtr. AUG 21 1970 Mud: Native.
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Test	11,232/96/102/0. WO next location. Finished laying down drill pipe. Nippled up well head. Released rig @ 11:59 p.m. 8/21/70. AUG 24 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Test	11,232/96/103/0. No report. AUG 25 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Test	11,232/96/104/0. MORT. AUG 26 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Test	TD 11,232. MORT. AUG 27 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Test	TD 11,232. MICR. AUG 28 1970
Shell-Brotherson No. 1-23B4 (WC) Brinkerhoff 12,350' Green River Test	TD 11,232. MICR. AUG 31 1970
Shell-Brotherson No. 1-23B4 (WC) Gibson 12,350' Green River- Wasatch Test	TD 11,232. (8 days) Prep to run Bkr 7" junk basket and gauge ring and 7" Bkr Mercury Series Model "D" pkr w/flapper on btm. RU Gibson Well Service 8/31/70. SEP 1 1970 Installed 6" hyd BOP's.

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. (9days). Running 2 7/8" tbg.
Ran 7" junk basket to 9450'. Ran and set 7" Mercury Series
Bkr Model "D" pkr w/flapper @ 9210'. Began running seal
assembly and 2 7/8" tbg. SEP 2 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. Prep to land tbg string.
Ran 2 7/8" Bkr prod tube (1' long), (2) Bkr Seal assemblies
(4' long), 1 jt 2 7/8" tbg, (1) Bkr type "F" non-ported
seating nipple (ID 2,312), 226 jts (6834') new 2 7/8" N-80
EUE 8rd 6.5# tbg w/ABC mod cplgs, 75 jts (2366') New N-80 EUE
8rd 6.5# plastic coated tbg w/ABC mod cplgs, (1) 12' & (2)
8' subs (28') plastic coated w/ABC mod cplgs, 1 jt below
donut. Landed tbg on donut w/14,000# weight on pkr at 9222 (tbg
meas). Spaced out seal assembly. Installed 8 5/8" spacer
spool 900 Series BOP's. Displaced annulus (Dow) w/120 bbls
fresh water containing 1 gal/10 bbls Tretolite K-700, & 3#/10
bbls Tretolite K-470. Displaced treated water to 5000'
(NOWASCO) w/15,000 std CF Nitrogen. SEP 3 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Unloading to pit.
Landed tbg and installed tree. Perf Lower Green River
9922-9935', 9952-9988', 10,032-10,044', & 10,059-10,066'
w/2 jts/ft in three runs. Tbg press increased from zero
to 800 psi after second run. SI 7 hrs. TP 1300 psi. SEP 4 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Prep to run tools to check paraffin
top.
11 hr SITP 1300 psi. Flowed well to reserve pit at rate of
1 B/H unloading load wtr. Back flowed wtr 24 hrs. Back flowed
well 24 hrs and recovered 36 bbls load wtr with slight rate
increase after 20 hrs. On 9/6/70, 11 hrs SITP 1500 psi.
Surged to pit and recovered 5 bbls diesel oil in 30 min. Well
dead. (Lack 25 bbls to recover). Loaded tbg with 2 bbls 175°
temp diesel oil. Max press 4800 psi. Followed w/48 bbls 175°
diesel oil with 300 std CF nitrogen per bbl. Min pump press 4200.
Avg inj rate 2 B/M. (Total load to recover 60 bbls). Back
flowed well to pit through 2" valve. Recovered 30 bbls diesel
oil. (Lack 30 bbls.) Well dead. SI for build up. 23 hrs
SITP 1500 psi. Opened to pit and recovered 25 bbls diesel oil.
All load with good flow of paraffin and wax-15 to 20 bbls.
Well died in 1 hr. SI for 23 hr build up. 8 hrs SITP 0. RU
Dowell. Acidized Green River zone 9,922-10,066' w/2500 gals 15%
HCl acid ahead and 5,000 gals of regular mud acid consisting of
12% HCl, 3% HF plus F-40 surfactant at 5 gal/1000, and A-130
inhibitor at 8 gal/1000 plus 75 bbls fresh wtr flush and 130
ball sealers with 500 CF nitrogen per bbl. (Total load to
recover 252 bbls.) Avg inj rate of acid 6 1/2 B/M. Flush at rate
of 7 1/2 B/M. Max trtg press 6000 psi, min 4900 psi, avg 5200 psi.
200# ball action. ISIP 3800, to 3600 in 10 min. Opened well
to pit. Back flowed 1 hr. Well clean. Turned well to tank
battery 1 p.m. FTP 75 psi through 48/64" choke. Initial gas
rate 22,000 CF/D. Well flowed 103 BO in 6 hrs. Well died
10 p.m. SI for build up. SEP 8 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Well opened to battery.
SITP 1500. TP bled to 0 in 2 min. Opened well to battery
through 48/64" chk at 0 FTP. No fluid to tanks after one hr.
RU Dowell. Pumped 84 bbls (190° temp) diesel oil #2 down
tbg. Max press - 4800, min - 3800. Rate - .3 B/M. ISIP SEP 9 32
4200, to 3800 in 10 min. Opened well to battery. TP bled
to 0 in 2 mins. Did not flow to battery. SI for buildup.

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Prep to reperf.
15 hr SITP 600. Opened well to battery but would not flow.
On 9/9/70, flowed well to battery 8 hrs through 48/64" chk w/FTP
of 50-100 psi. Rec'd 80 bbls diesel oil previously pumped in
well and 94 bbls formation oil. Well died 5 p.m. RU Cafada
Wire Line Service. Ran spiral wire for 2 7/8" tbg to check
paraffin to 2600', no paraffin or obstructions. Shut well in
at 5 p.m. for buildup. SEP 10 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Prep to reperf Green River.
Well opened to pit one hr. Unloaded 5 bbls solid wax and
paraffin. Turned to battery @ 9 a.m. through 48/64" chk w/50-75
FTP. Recovered 66 BNO. Well died in 3 hrs. RU Dow. Loaded
tbg w/80 bbls (190° temp) #2 diesel oil. Max pump press - 4500,
min 4000. Avg inj rate - 3 B/M. ISIP 3500, to 2900 in 10 min,
to 2200 in 30 min. RU OWP to reperf Green River zone. First run
consisted of perfs 10,059-10,066 and 10,032-10,044. Gun would
not fire; wet primercord. Shut well in 7 p.m. SEP 11 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Running sinker bars. On 9/14/70,
12-hr SITP 600. Bled off to pit. No fluid to surface.
On 9/11/70, reperf Green River zone as follows: First run
9922-9935', second run 10,032-10,044' and 10,059-10,066', and
third run 9952-9988' (total of 68' - 136 holes). Perforated
w/decentralized bi-wire jet tbg gun using two 0.6" entry holes
per foot (24 gram charges). Logged perforations and logged
to top of 5" liner. SITP 1325#. Opened well to battery at
5 p.m. through 46/64" choke. Flowed 80 bbls diesel oil, acid
water, and 13 bbls formation oil in 5 hrs. Well dead @ 10 p.m.
Shut well in 12 midnight for buildup.
On 9/12/70, 8 hr SITP 600 psi. Opened well to pit. Well
unloaded 25 to 30 bbls of hard to soft wax and paraffin in pit
in 2 hrs. Well dead. RU Dowell. Acidized Green River zone
9922-10,066' (272 holes) w/10,000 gals 15% HCl acid, (175°
temp) containing 2 gal F-40, 2 gal M-38, and 8 gal A-130 per
1,000 gal, plus 197 (1 1/4") balls and 103 (7/8") balls - a total
of 300 nylon ball sealers. 350 std cu ft of nitrogen per bbl.
Flushed with 80 bbls (175° temp) #2 diesel oil. Max trtg press -
7000 psi, min 5200 psi, avg 6000 psi. Avg inj rate 9.7 B/M.
ISIP 4400 psi, to 3100 in 10 min, to 2800 in 30 min. (Total
load to recover = 320 bbls.) Very slight indication at sfc of
ball action. Backflow to pit in 1 1/2 hrs with recovery of diesel
oil, acid wtr, and show of drilling mud. Well dead 7 p.m. SI
for buildup.
On 9/13/70, 12 hr SITP 800 psi. Opened well to pit. Ran sinker
bars to 3000'. Began swabbing 10 a.m. Swabbed 10 hrs and lowered
FL to 5000'. SF 6500'. Swbd total of 150 bbls thick wax
paraffin, 50% murky mud filtrate water and drilling mud. SI for
buildup. SEP 14 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Swabbing.
FL 5,000', SF 6,500'. Recovered 208 BO & 89 bbls drlg
mud in 22 hrs. SEP 15 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Swabbing.
FL 5,000'. SF 6,500'. Recovered 110 BO and 67 bbls drlg mud
in 24 hrs. SEP 16 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River

TD 11,232. PB 11,150. Swabbing. FL 5,000', SF 7,000'.
Recovered 183 BO & 180 bbls muddy wtr in 24 hrs.
Chlorides - 17,500 ppm. SEP 17 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Swabbing. FL 5,000', SF 7,000'.
Recovered 139 BO and 125 bbls muddy wtr in 18 hrs. Down six
hrs for rig repair. SEP 18 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Swabbing.
On the following days, swab rate as follows:

Hr		Recovery (Bbls)				Remarks
Date	Test	FL	SF	BO	Muddy Wtr	
9-19	24	5,000'	7,000'	124	49	
9-20	20	5,300'	7,300'	86	35	4 hrs rig repair
9-21	24	5,600'	7,600'	102	81	SEP 21 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Prep to run BHP Surveys.
Swabbed 108 BO and 58 bbls muddy water in 24 hrs, FL 5600',
SF 7600'. SEP 22 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. Running BHP bombs. Ran sinker bars
to 10,000', OK. Ran press bombs. Started to pump diesel
oil - lubricator stripper failed. Pulled bombs and swabbed
16 hrs. Rec'd 40 bbls diesel oil, 48 bbls oil, and 20 bbls
muddy water. SEP 23 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup.
Ran tandem BHP bombs to 10,000'. Displaced w/diesel
oil to formation. 16-hr SITP - 0. SEP 24 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup.
Tbg press 200 psi. SEP 25 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup.
Pulled BHP bombs after 72-hr SI 9/26/70.
TP 440 psi. Press still building 10 psi/hr. Max press
reading - 3947 psi. Reran bombs to 10,000' 9/26/70. TP
9/27/70, 535 psi, 9/28/70, 635 psi. SEP 2 8 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup.
TP 705 psi. SEP 2 9 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup. TP 760 psi.
Pulled BHP bombs 9/29/70. Cumulative SI 141 hrs. Press
still building at 4 psi/hr. Max reading after 141 hrs -
4248 psi. Initial DST press - 5,000 psi. Reran to 10,000'
for additional 72 hrs. SEP 3 0 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup.
TP 825. OCT 1 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson
12,350' Green River-
Wasatch Test

TD 11,232. PB 11,150. SI for BHP buildup.
TP 830. OCT 2 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson

TD 11,232. PB 11,150. No report. OCT 5 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson

TD 11,232. PB 11,150. No report. OCT 6 1970

Shell-Brotherson
No. 1-23B4
(WC) Gibson

TD 11,232. PB 11,150. SI for BHP buildup.
SITP for following days as follows:
10-6 905
10-7 910 OCT 7 1970
10-8 910

Shell-Brotherson
No. 1-23B4
(WC) Gibson

TD 11,232. PB 11,150. SI for BHP buildup.
TP 935 psi. OCT 8 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,150. No report. OCT 9 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,150. SI for BHP buildup.
On 10/10/70, ran tandem press bombs to 10,000' for 72-hr
buildup.

Press's as follows: OCT 12 1970

<u>Dates</u>	<u>TP's</u>
10-10	935
10-11	935
10-12	935

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,150. Pulling bombs. OCT 13 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,150. WOCR; prep to recomplete lower
intervals. Pulled bombs.
Max recorded BHP 4576 psi. Pressure remained constant @
4576 psi for last 57 hours of buildup. Depletion indicated
with cumulative oil prod of only 1500 bbls. OCT 14 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,150. WOCR. OCT 15 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,150. WOCR. OCT 16 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232, PB 11,150. RU Ford Tool Company Rig this date.
OCT 19 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Prep to kill well.
Completed RU. OCT 20 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Reloading tbg w/100 bbls 9.9#/gal SW.
Bled nitrogen from csg. Loaded tbg and csg w/9.9#/gal SW.
Max pump press - 2500 psi at 3 B/M. Did not kill well. OCT 21 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Running 3½" DP w/outside mill to
recover Model "D" pkr. Pumped in 100 bbls 9.9# SW. Bled back
15 bbls. Removed tree and installed BOP. Unlatched from
Model "D" pkr and circ water. Pulled and laid down 2 7/8"
string. OCT 22 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Mixing 9.6# SW.
Ran 5 3/4" Bowen pkr retriever on 3½" IFDP and engaged
pkr at 9210. Reverse circ and milled over pkr 15". Circ
ports partially plugged. Lost 90% circ. Milling shoe
rotates free. OCT 23 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. WOC; pulling Bkr setting tool.
On 10/24, milled over pkr second time. Mixed salt and fresh water to 9.6 #/gal - 600 bbls. Milled on Bkr pkr 3 hrs and mill stopped. Released Bowen pkr retriever and pulled out of hole. Ran new Texas pattern 5 3/4" OD Bowen cut-rite milling shoe and began milling over pkr.
On 10/25, cleaned 5" liner by reverse circ at 10,935'. Milled over pkr 4 hrs. Pulled pkr and tools out of hole. Ran new 4 1/8" OD bit to 10,980' - bottom. Reverse circ and drilled 45' to 10,935' - bit plugged and lost circ - unable to knock out plug by conventional circ. Pulled 4 1/8" bit. Set Model "K" magnesium cmt retainer at 9719. Press tested 7" csg and 5" liner to 3,000 psi for 10 mins, held ok. Press tested DP to 4,000 psi, held ok. Squeezed Green River perfs 9922-10,066 (272 holes) w/400 sx Class "G" cmt (Hal). 81 bbls slurry. Staged last 5 bbls cmt in DP. Attained stdg press of 3200 psi in 3 1/2 hrs. 1 bbl cmt left in DP. Backwashed DP. Began pulling Bkr setting tool 4 a.m. this date 10/26. OCT 2 6 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Drlg Bkr magnesium cmt retainer @ 9719. Pulled Bkr setting tool. Ran new Hughes 4 1/8" OD W. O. Series bit. WOC 26 hrs. OCT 2 7 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Pulling 4 1/8" bit. Drilled Bkr magnesium retainer at 9719-9722 and hard cmt to 10,071 - (total of 352') - 5' below bottom perfs. Ran bit to 10,935. Reverse circ and drilled to 10,958; bit stopped, was worn out. Began pulling DP and bit 5 a.m. up to 9,800'. Press tested squeezed off perfs 9922-10,066 to 3,000 psi for 20 mins. Held solid. OCT 2 8 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Pulling plugged bit. Ran new Hughes W.O. Series 4 1/8" OD bit. Tagged bottom at 10,958. Reverse circ and CO formation sd and shale from 10,958-11,020 (62'). Plugged bit at 3 a.m. Attempted to pump w/4500 psi down DP; unsuccessful. Started out of hole at 4 a.m. OCT 2 9 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,150. Reverse circ and washing out 5" liner at 11,113'. Pulled plugged bit w/3 bottom jts DP also plugged. Ran 4" OD Texas pattern milling shoe and tagged bottom at 11,020. Reverse circ and washed out formation sd, sh, frac balls, and debris to 11,113'. (DP meas). OCT 3 0 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,225. Laying down 2 3/8" DP.
Mixed mud and finished 12 noon 11/1/70. Reverse circ and
drld hard cmt in 5" liner from 11,152-11,225. Circ hole
clean. Displaced mud in hole w/fresh inhibited water and
laid down 3 1/2" DP.
On 10-30, reverse circ and washed out 5" liner from 11,113-
11,152 (34' DP meas). Circ hole clean. Pulled milling shoe
out of hole. Ran depth determination log in conjunction
with collar correlation log from PBDT 11,154-9,900. Elec
line PBDT-11,154.
On 10-31, ran new 4 1/8" OD Hughes bit to condition mud and
drld out 5" shoe jt. Installed Cameron csghd equip and 10"
1,500 Series BOP's.
On 11-1, mixed mud (Milchem). Ran new Hughes 4 1/8" bit to
11,150. Began mixing mud 1 p.m. to build weight to 14.1 #/gal.
Mud: Visc 70, mud 14.1 #/gal in hole and out. NOV 2 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Running Bkr seal assembly & 2 7/8" tbg.
Laid down 2 3/8" DP. Ran Bkr Model FA pkr w/10' N-80 2 7/8" sub
plus 2.25 ID bore Model "F" nonported nipple on btm of sub
& pkr. Checked PBDT @ 11,222. Set pkr @ 11,000' (OWP). Ran
122 jts 4 1/2" 11.6# J-55 8rd csg w/beveled collar on btm jt.
Landed csg on donut w/4 1/2" 8rd thd x 4 1/2" EUE 8rd thd swage
w/backpress valve in place. Btm of 4 1/2" csg @ 4025. Removed
10" Series 1500 BOP's and installed Cameron tbghd spool.
Removed backpress valve. Re-installed 6" 1500 Series BOP's.
RU to run tbg. NOV 3 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Prep to perf. Ran Bkr
FA-30 seal assembly w/cup type seating nipple one jt above,
358 jts 2 7/8" N-80 plastic coated and plain tbg w/ABC mod
collars w/teflon rings and reg N-80 tbg, 26' subs. Landed
tbg on donut w/20,000# weight at 11,003 (tbg meas), seating
nipple at 10,974. Installed 10,000# composite tree. Press
tested 7" and 5" liner annulus to 3,000 psi. Press'd tbg
to 5,000 psi, held ok. RU to perf. NOV 4 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. RU to perf. Ran swab this a.m. and
found FL at 3,000'. Perf Green River interval 11,214-11,220,
11,198-11,204, and 11,188-11,194 (total 18') w/2 jts/ft
(32 holes) using 2 1/8" alum bi-wire through tbg gun (.42
entry holes, 24 gram chgs and 8" penetration) (OWP). Had
600 psi at sfc in 1 min, 1600 psi in 5 mins, 1800 psi in
10 mins, 2,000 psi in 30 mins, 2300 psi in 40 mins. Opened
well to pit through 1" chk. Tbg press bled to 0 immediately
w/5 bbls flow. Well opened two hrs w/O tbg press. Rec'd
total of 10 bbls. RU to swab and swabbed from 4 p.m.-10 p.m.
Circ 4 1/2" and 7" csg w/190° wtr in 2 1/2 hrs w/hot oiler. Rec'd
56 BLW, total of 66 BLW tbg capacity and 12 bbls waxy green-
yellow oil. FL 5,500'. Fair show of gas. Well opened
through 1" chk 10 p.m. 11/4 to 7 a.m. 11/5/70. Fluid
rose to 2500'. NOV 5 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

GR-WS

TD 11,232. PB 11,222. Making one-hr swab runs. Checked FL at 3,000'. Fluid rise 2500' overnight. Perf Green River-Wasatch Zone 11,008-11,020, 11,108-11,120, and 11,140-11,152 (36' total) w/2 jts/ft using 2 1/8" alum bi-wire through tbg gun (48 holes) (.42" entry holes, 8" penetration, 24 grm chgs) (OWP). No sfc press increase. RU and swabbed 1 p.m. - FL at sfc. Heated 2 7/8" x 4" annulus to 190° w/hot oil truck. Swabbed total of 60 BF (20 BLW and 40 bbls dk green oil). In 4 1/2 hrs, swbd down to 10,000'. Pulled swab and capped well. Left open to pit. Flowed small amount of gas, no liquid to pit overnight. GC FL at approx 6,000'. Swabbed to 10,000' in two runs - approx 314 BF (dk green oil). Well opened to pit from midnight to 6 a.m. - no liquid to sfc. NOV 6 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Prep to flow to pits through heater treater. Swabbed approx 10-12 bbls additional fluid from 7 a.m. to 6 p.m. 11/6/70. Made 1 pull/hr from 10,000'. Capped well. Left open to pit. Small gas blow. On 11/7, well opened to pit - no fluid, small amount of gas. Ran swab - gas-cut fluid from 6500'-10,000'. Swabbed to 10,000' in two runs - approx 2-3 BF. Acid fraced Green River perfs 11,108-11,120, 11,140-11,152, 11,188-11,194, 11,198-11,204, 11,214-11,220 (Howco) as follows: Tested lines and upper tree to 10,000 psi. Pumped 7,500 gals gelled MOD-202 acid containing 2 gals HAI-50/1,000 gals, 60# WG-6/1,000 gals, 2 gals LP-55/1,000 gals, 3 gals 5-N/1,000 gals, .2 bbl CO₂/bbl fluid added, 60 (7/8") perf ball sealers w/density of less than one, 7,500 gals MOD-202 acid as above, 3,250 gals fresh wtr flush containing .2 bbl CO₂/bbl. Tbg volume - 63.8 bbls. Pump and lines - 13.2 bbls. Acid on formation - 9 1/2 B/M at 9800 psi. No break. Ball sealers on formation. Slowed rate to 8 B/M at 9800 psi. Started flush at 8 B/M at 9800 psi. Finished flush at rate of 11 1/2 B/M at 7900 psi, immed press drop to 4900 psi, 5 min drop to 4800 psi, 15 min drop to 4700, 2 hr 4 min drop to 4000 psi. Max trtg rate - 11.5 B/M, min - 8 B/M. Max trtg press - 10,000 psi, min - 7,900 psi, avg - 9,700 psi. (Total fluid to be rec'd - 426 bbls). Opened well 6:45 p.m. on 24/64" ch: flowing at 2300 psi. Rec'd load. Shut well in due to high wind. NOV 9 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Flowing on 32/64" chk. Opened well to treater on 8/64" chk, FTP 2200. Worked chk up to 26/64" w/FTP down to 2100. Treater filled up and blew rupture disc on treater. Filled control lines and valves w/gelled oil. Shut well in - dismantled and steam cleaned all lines and controls. Replaced disc. Opened well to treater 5:15 p.m. Worked chk up to 24/64", FTP 1900. Treater dumping oil, water, and gas. Treater filled up and again blew rupture disc 6:05 p.m. Dismantled and shut well in; disconnected from flowlines. Tied well to blouie line. Opened to pit on 16/64" at 2100 psi at 6:30 p.m. Fired discharge. Flowing to pit from 6:30 p.m. - 8 a.m. 11/10/70 on 16/64" chk, worked down to 1100 psi. Gel plugs diminished from midnight to 7 a.m. Opened well to 24/64" chk 7:35 a.m. w/1100 psi, dropped to 900 psi FTP in 30 min. Opened to 32/64" chk at 8:05 a.m. at 900 psi. Estimate approx 10 BF/hr consisting of oil, water, and gel slugs. NOV 10 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Preparing to completely steam clean treater and lines. At 11:05 a.m., flowing on 32/64" chk with tbg press of 500 psi. Estimated flow rate of 10-15 BF/H. 200-250 MCF gas. SI 1:20 p.m. to connect flowlines. FTP 700 psi, increased to 1,000 psi in 55 min. Opened to treater on 12/64" chk with 1,000 psi. Increased to 16/64" chk; treater operated normally dumping oil, water, and gas. Increased to 24/64" with 800 psi, increasing to 32/64" with 800 psi. Treater operated normally dumping oil, water, and gas. Rupture disc failed at 3:35 p.m. filling all lines with oil. SI well and installed new rupture disc. NOV 11 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,122. Flowing. Steam cleaned lines, valves, controls, and heater treater. Re-installed equip. 40-hr SITP 2700 psi. Filled trtr w/hot fluid. Opened well at 7:30 AM on 6/64" chk; rupture disc blew w/26 psi on trtr. Backpress valve frozen. Thawed out backpress valve and installed new rupture disc. Opened well 9:15 AM on 4/64" chk. Inc by 1/64" increments to 14/64" chk at 9:25 AM. FTP 1800 psi. HT 20 psi @ 165°F. Prod liquids, no gauge. NOV 12 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Prep to install heat cable on line from well head to heater treater and valves, and install higher pressure pump to circ more hot oil through heat exchange lines paralleling flow lines. On 11/12/70 from 10-11 a.m. well flowed 20 bbls oil - 1 hr. thru 15/64" chk FTP 1,500 psi. At 11:40 a.m. control line on BPV plugged dumping liquids down vent line. While SD to clean out BPV control line oil congealed in flow line. Cleaned out flow lines and made several attempts to flow well but kept freezing off between well head and treater. NOV 13 1970

Shell-Brotherson
1-23B4
(WC) Ford

TD 11,232. PB 11,222. Flowing. Prep to turn through heater treater and test.
On 11/13/70, well SI 24 hrs. Attempted to clean lines; all were plugged off tightly. Removed all insulation and steamed lines. Replaced broken valve on stock tank.
Changed circ pump.
On 11/14/70, well SI 24 hrs. Steam cleaned lines and fittings on heater treater putting heater tape on all flowlines and circ lines. Replaced broken valve on heater treater.
On 11/15/70, finished hockup of heating cable. Hooked up new circ pump. Began circ hot oil through lines.
On 64-hr SITP - 3,000 psi. Opened well at 3:20 p.m. Gradually opened chk to 1" (64/64"). By 3:45 p.m. had FTP 1200. At 4 p.m. had 1050 psi FTP on 1" chk.
Times and FTP's on 1" chk as follows:

Date	Time	FTP	Remarks
11-15	5 p.m.	700	
	6 p.m.	600	
	7 p.m.	500	
	8 p.m.	500	
	9 p.m.	400	
	10 p.m.	400	
	11 p.m.	450	
	12 p.m.	425	
11-16	1 a.m.	300	Between 1 and 2 a.m., had increase in oil. Before that time, was mostly gas.
	2 a.m.	300	

From 2 a.m. - 8 a.m., had constant FTP of 300. Flaring to pit since opening well. NOV 16 1970

Shell-Brotherson
No. 1-23B4
(WC) Ford

TD 11,232. PB 11,222. Flowing well to pit burning while cleaning out gas lines on heater treater.
SI well and hooked up 2nd chk. Opened well to pit on 1" chk and pulled tbg press down to 275 psi. Gradually opened well to treater and closed chk to pit. Started gauging into stock tank at 3 p.m. Well flowing w/FTP of 275 on 1" chk. Flowed 37 BO in one hr, gas 375 MCF/D & no wtr. From 4-7 p.m., adjusted equip, gas meter, etc.
From 7 p.m. 11/16 to 7 a.m. 11/17, flowed 359 BO, 530 MCF/D, and no wtr. Avg rate last 12 hrs - 30 BO/H, \pm 50 MCF/D, on 1" chk at FTP of 230 psi. NOV 17 1970

Shell-Brotherson
1-23B4
(WC) Ford

TD 11,232. BP 11,222. Flowing well to tank.
Flowed total of 1040 bbls as of 7 AM 11-18; last 24 hrs flowed 540 bbls and no wtr. Avg rate last 10 hrs - 18.2 BOPH. 0 BW, & 477 MCF/D on 1" chk. FTP 160. NOV 18 1970

Shell-Brotherson
1-23B4
(WC)

TD 11,232. PB 11,222. Flowing to tank battery; prep to circ heat to top 4,000' of tbg. SI well 9 a.m. Released Ford Rig 9 a.m. 11/18/70. FTP before SI at 9 a.m. 160 psi. 4-hr SITP 710 psi. Opened well 1 p.m., gradually opened to chk to 1". FTP at 2 p.m. 450 psi, fluctuating. From 7 a.m. 11/18 to 7 a.m. 11/19, w/4 hrs being down, in 20 hrs produced 220 BO, no wtr, and 285 MCF/D, FTP 160 psi. Avg - 11 BO/H. NOV 19 1970

Shell-Brotherson
1-23B4
(WC)

TD 11,232. PB 11,222. Circ hot wtr to top 4,000' of
tbg for 19 hrs. Flowed to tank for 24 hrs.
Produced total of 1463 bbls - last 24 hrs, 223 BO,
0 BW, and 330 MCF/D. NOV 20 1970

Shell-Brotherson
1-23B4
(WC)

TD 11,232. PB 11,222. Prep to run sinker bar.
From 7 a.m. 11/20 to 7 a.m. 11/21, flowed 217 BO,
200 MCFG/D, and no water through 1" chk at FTP 60 psi.
Ran paraffin knife and cut paraffin from 1300-2040'.
Ran knife to 5,000'. Pumped 25 bbls hot 350°F wtr
down tbg. Opened well 5 p.m. and found on vacuum. At
11 p.m. 11/21, FTP 30 w/no liquid flow - insufficient gas
to pressure treater or light flare. At 2 p.m. 11/22, FTP
100 psi on 8/64" chk. Opened to 16/64" chk & FTP declined
to 0 in 3 mins. No flow. At 3 p.m. 11/22, started
flow. From 3-4 p.m., flowed 30 BO, and from 4-5 p.m.,
flowed 9 BO and died. At 6 p.m. 11/22, TP - 0. Shut well
in. At 7 a.m. 11/23, SITP - 30 psi. NOV 23 1970

Shell-Brotherson
1-23B4
(WC)

TD 11,232. PB 11,222. SI; prep to check tbg for
congealed fluid.
At 5 p.m. 11/23/70, had 23-hr SITP of 80 psi. TP began
increasing as follows:

Date	Time	Psi
11-23	6 PM	200
	7 PM	400
	8 PM	950
	10 PM	1180
	11 PM	1200
11-24	1 AM	1250
	3 AM	1300
	7 AM	1320

NOV 24 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,222. Prep to run BHP bomb.
SITP 2,000 psi. Ran sinker bar to PBTD 11,222.
Encountered obstruction 1800-3000'. Worked through.
Ran temperature bomb to PBTD making numerous stops.
Encountered obstruction 1800-3000' and worked through.
Temperatures at some depths as follows: (complete data later).

Depth	Temperature °F
500	138
1,000	128
1,500	107
2,000	97
3,800	91 (lowest)
10,000	209 (gradual increase from 3800)
11,215	214

Circ heat string w/own system at rate of 0.8 bbl/min
@ 90 psi, motor drawing 26 amps. Glycol-water in @ 190°F
and out @ 160°F. NOV 25 1970

Shell-Brotherson
1-23B4
(WC)

TD 11,232. PB 11,222. Running BHP build-up survey.
Bomb on bottom 2 p.m. 11/28/70. SITP 2250 psi. Opened
well 12:16 p.m. on 9/64" chk, increased to 41/64" at end
of 1st hr. In 1st hr, flowed 9 BO w/FTP 250 psi. 2nd
hr, flowed 10 BO on 64/64" chk w/FTP 90 psi, 3rd hr, flowed
10 BO on 64/64" chk and died. SI @ 3:16 p.m. 11/28/70.
Field measurements on flow test as follows:

<u>Time</u>	<u>chk size (")</u>	<u>TP</u>	<u>BHP</u>
5 mins	9/64	1700	2463
20 mins	10/64	1450	2220
40 mins	14/64	875	2190
50 mins	24/64	400	2123
60 mins	41/64	250	2160
2 hrs	64/64	90	2205
3 hrs	64/64	60	2209

After SI field readings of BHP build-up as follows:

<u>Time after SI</u>	<u>BHP</u>
30 mins	2332
40 mins	2377
1 hr	2414
2 hrs	2451
3 hrs	2489
4 hrs	2500
5 hrs	2507
6 hrs	2533
8 hrs	2556
10 hrs	2589
20 hrs	2705
30 hrs	2821
40 hrs	2918
50 hrs	3026
60 hrs	3136
65 hrs	3178
66 hrs	3181

BHP appears to be still increasing at approx rate of $7\frac{1}{2}$
psi/hr. At 10:15 a.m. 11/28, started out w/bomb. SITP =
1850. Encountered "sticky" spots at 1800 and 250'. Out
of hole @ 11:15 a.m. Reran bomb and back on bottom @
2 p.m. 11/28/70. SITP @ 7 a.m. 11/30/70 = 2220 psi. NCV 3 0 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,222. Prep to pull bomb.
SITP at 8 a.m. 12-1-70 - 2345 psi (137 hrs)
Increase of 145 psi in last 25 hrs. DEC 1 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,222. SI for BHP buildup.
Pulled Amerada bomb. BHP built up 649 psi in
68 hrs, $9\frac{1}{2}$ lbs/hr from 70-hr SI to 138-hr SI.
138-hr SI BHP 4050. Reran BHP bomb to continue
press buildup. Bomb instruments on bottom 1 p.m.
12-1-70. SITP 8 a.m. 12-2-70 after 161-hr SI -
2475 psi. DEC 2 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,222. SI for BHP buildup.
SI 24 hrs to obtain BHP. SITP at 8 a.m. 12-3-70
after 185-hr SI - 2575 psi. DEC 3 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,222. SI for BHP buildup.
SITP 7 a.m. 12-4-70 - 2660 psi. 208 hrs total SI. DEC 4 1970

Shell-Brotherson
No. 1-23B4
(WC)

11,232. PB 11,222. Prep to run static press grad &
temp survey.
SITP 8:00 a.m. 12-5-70 - 2740 psi. 233 hrs total SI.
SITP 8:00 a.m. 12-6-70 - 2830 psi. 257 hrs total SI.
Pulled BHP bomb off btm @ 9:00 a.m. 12-6-70. SITP
increased from 2345 psi on 12/1/70 to 2830 psi 12/6/70,
485 psi increase in 121 hrs, 258 hr BHP - 4844 psi.
8:00 a.m. SITP 12/7/70 - 2930 psi. DEC 7 1970

Shell-Brotherson
No. 1-23B4
(WC)

TD 11,232. PB 11,222. SI; prep to restimulate perf'd
interval 11,108-11,220.

Temp bomb out at 3 p.m. 12-7-70.

Ran static temp gradient - stops and temp as follows:

<u>Depth</u>	<u>Temp</u>	<u>Depth</u>	<u>Temp</u>
0	69°	4025	91°
50	174°	4050	92°
500	148°	4100	95°
1000	122°	4200	96°
1500	106°	4500	102°
2000	97°		
2500	93°		
3000	91°		
3500	91°		

SITP 8 a.m. 12-8-70 - 3,000 psi. Total SI 305 hrs.
Static press survey details to follow. DEC 8 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Prep to restimulate 11,108-11,220.
Bulk truck carrying CO₂ had mechanical trouble; treatment
postponed. SITP as of 8 a.m. 12-9-70 - 3050 psi. Total
hrs SI - 329 hrs. DEC 9 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Prep to open well to pit. Acid treat gross perfs 11,108-11,220 w/15,000 gal MOD 202 acid, 40,000 gals wtr containing 8,000# MF-1, 400# Morflo 2, and 40 tons of CO₂ (all liquids containing 2#/1000 gal SR-18) and 60 ball sealers as follows: Pumped down tbg-csg annulus to 3000 psi. Press tested lines to 10,300 psi for 5 min. Pumped 2750 gals MOD 202 acid. Started adding CO₂ at 400 CF/bbl fluid. Pumped 4750 gals MOD 202 acid (7500 gals total) w/400 CF CO₂/bbl and 20,000 gals wtr with CO₂. Dropped 60 ball sealers w/specific gravity less than 1. Pumped 7500 gals MOD 202 acid w/CO₂, 12,500 gals wtr with CO₂, and 7500 gals wtr. Displaced with 2750 gals wtr containing no CO₂ in final 7500 gal MF-1 and flush due to inability to pump CO₂ at low enough rate and still not freeze line. Max rate - 9½ B/M, min - 4 B/M, avg rate - 8 B/M. Max press 9100, min 6450, avg press 8000. Avg hydraulic horsepower 1569. Final pumping press 7200. ISIP 5000. 20 min SIP 4800. Job complete 2 p.m. 12/9/70. 18-hr SITP 2550 psi @ 8 a.m. 12/10/70. (Total load to be rec'd - 1325 bbls) DEC 10 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Prep to open to pit. Opened well to pit 8:30 a.m. 12-10-70. Opened slowly to 20/64" chk. Well blowing as follows:

<u>Time</u>	<u>B/M Wtr</u>	<u>FTP</u>	<u>Chk</u>
8:45 a.m.	.7	2100	20/64"
9:00 a.m.	.7	2000	20/64"
9:30 a.m.	.7	1950	20/64"
10:30 a.m.	.7	1850	20/64"

After recovering 80 bbls wtr, well began flowing mist. Unable to obtain rate from cut; mostly wtr and CO₂. Opened chk to 40/64" at 11 a.m. and press dropped to 500 FTP, fluctuating. Made numerous attempts to flare; would not burn. Small amt of oil shown at 3 p.m. Ran butane flare to end of flowline. CO₂ would not allow burning. No estimate of recovery. FTP 4 p.m. - 400 psi. SI well for night 5 p.m. 14-hr SITP 7 a.m. 12-11-70 - 1850 psi. DEC 11 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Flowing well to battery.
On 12/11/70, opened well to pit at 8 a.m. on 32/64" chk.
Well blowing in heads of wtr and CO₂. Returns would not
burn steadily. FTP fluctuating from 400-700 psi. Opened
chk to 64/64" at 11 a.m. FTP went down to 200 psi. Returns
flared from 12 noon to 3 p.m. on 1" chk. FTP fluctuating
from 100-200 psi. Turned well into tank battery and,
gradually from 3-4 p.m. 12/11/70 - 7 a.m. 12/12/70 (15 hrs),
well flowed 320 bbls oil, 83 bbls load wtr, avg gas rate
335 MCF/D w/FTP fluctuating from 140-200 psi on 1" chk.
On 12/12/70, avg rate - 21.3 BO/H, 525 bbls wtr fluctuating.
Well flowing to tank battery for 24 hrs and, from 7 a.m.
12/12/70 - 7 a.m. 12/13/70, well flowed 355 BO and 55 bbls
load wtr on 1" chk, w/FTP decreasing from 160-110 psi. Avg
rate/hr - 14.8 BO, 2.7 BW, 259 MCF gas. Total prod to
battery - 675 BO, 148 BW.
On 12/13/70, well flowed to tank battery, and in 24 hrs, well
flowed 260 BO and 8 BW on 1" chk w/FTP decreasing from
110-80 psi. Avg rate last 24 hrs - 10.8 BO/hr, 0.3 BW/hr,
189 MCF/day. Total prod to battery - 935 BO, 156 BLW. DEC 14 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Well flowing to tank battery.
In 24 hrs from 7 a.m. 12-14 to 7 a.m. 12-15-70, well
flowed 195 BO and 20 BLW on a 1" chk w/FTP decreasing DEC 15 1970
from 80 to 60 psi. Avg rate last 24 hrs - 8.1 BO/H &
0.8 BLW. Total production to battery - 1130 BO and 176 BLW.

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Prep to open well to battery.
Flowed well for 13 hrs and well died. SI at 8 p.m. DEC 16 1970
12-15-70. Well flowed 80 BO and 8 BLW in 13 hrs. Avg -
6.2 BO and .6 BLW per hr. Total flowed to battery to date -
1210 BO and 184 BLW. 11-hr SITP at 7 a.m. 12-16-70 - 480 psi.

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Prep to open well.
Opened well 10:00 a.m. 12/16/70. Well flowed 48 bbl
in 11 hrs & died. SI @ 9:00 p.m. 10-hr SITP @ 7:00 a.m.
12/17/70 550 psi. Total to battery since last acid
treatment 1258 oil, 184 load wtr. DEC 17 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232

TD 11,232. PB 11,222. Prep to run press bomb.
Opened well 8 a.m. 12-17-70 w/600 psi on tbq. Flowed
38 BO and no wtr in 8 hrs. Well died. Total production
to date - 1296 BO and 184 BLW. SI for BHPS at 4 p.m.
This a.m. 12-18 - 640 psi. DEC 18 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. SI; WOCR.
On 12-18, well SI 24 hrs; unable to start BHP survey due to
transportation problems caused by blizzard.
On 12-19, obtained other equipment to run BHP survey. Original
equip lost by airline. Ran BHP bomb; on bottom at 4:50 p.m.
12-19-70. SITP at that time - 1250 psi. Opened well to
battery 5:15 p.m. Flowed 57 BO and no wtr in 4 hrs on
42/64" ck. FTP as of 9:15 p.m. 150 psi. Shut well in for
BHP survey. DEC 21 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. MICR. DEC 2 2 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. RUCR. DEC 2 3 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. RUCR. DEC 2 4 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. Flowing to blow down; prep to kill well and open additional zones to production. Pulled BHP bomb. Opened well 12-27-70. Flowed 387 BO and 50 BLW in 22 hrs. DEC 2 8 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. Displacing glycol from heat string. Last 24 hrs, flowed 183 BO on 1" chk - flowing intermittently. FTP fluctuating from 0-100 psi. DEC 2 9 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. Pulling tbg. Pumped 28 bbls 11#/gal CaCl₂ wtr down tbg and well went on vacuum. Displaced wtr-glycol mixture from heat circ string into tank w/fresh wtr. Pumped 42 additional bbls 11#/gal wtr down tbg to displace oil and gas. Tbg on vacuum. Removed Christmas tree and installed 6" Series 1500 hyd BOP's. Unlatched tbg from Model "FA" pkr and pulled tbg. Tallied out and ran in w/ret plug on 2 7/8" tbg and ret "FA" pkr blanking off perf interval 11,108-11,220. Pulled up 10'. Press tested BOP's and ret plug to 3,000 psi. Heated 11#/gal wtr to 150°F. Displaced wtr in well w/11#/gal CaCl₂ wtr. DEC 3 0 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. Prep to perf. Pulled tbg. Removed BOP's and tbg spool. Picked up 4½" csg circ string from donut. Put back BOP's and tbg spool. Pulled and laid down 4,000' 4½" csg. Filled hole w/11#/gal wtr. MI&RU OWP. DEC 3 1 1970

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. Prep to flow well to pit.
SITP 7 a.m. 1/4/71 - 2300 psi, 19-hr csg press as of
7 a.m. 1/4/71 - 700 psi.
On 12/31 perforated through 5" liner w/4 jts'/ft using a 3 3/8"
csg gun (14 gram jets) at the following depths: 10,919-
10,926, 10,935-10,972, 10,778-10,780, 10,789-10,795,
10,800-10,805, 10,808-10,812, 10,819-10,828, 10,836-10,850,
10,863-10,869, 10,873-10,884, 10,650-10,858, 10,663-10,686,
10,502-10,524, 10,252-10,256, 10,314-10,321, 10,356-10,368,
10,374-10,380, 10,050-10,075.
(Total footage perf'd 208') (Total number of holes - 834)
On 1/1, & 1/2 Set Bkr 5" ret BP at 10,986, ret pkr at 10,901,
with tbg tail to 10,971. MI&RU Dowell. Preheated HCl and
acetic to 100°F. Acid treat gross perforated interval
10,919-10,972 as follows: Spotted acid across perfs
through pkr bypass, pulled bypass & treated w/500 gals 15%
HCl, 2500 gals 10% acetic and 714 gals 15% HCl, at which
point well communicated behind csg to next perf'd interval
10,778-10,884. Tbg had 1000 psi, csg 0 press. Tbg under-
balanced. Opened pkr bypass. Displaced acid in tbg back
to frac tank w/11#/gal SW. Pull 5 jts tbg and reset pkr at
10,756. Stopped acid through pkr bypass. Pulled bypass.
Acid treated gross perf'd interval 10,778-10,972 as follows:
Treated w/4,286 gals 15% HCl. Max rate 5 1/2 B/M, min rate 3 B/M,
avg rate 5 B/M. Max press 5200, avg 4800, final pump press
4800. ISIP 2700, 15 min SI press 2,000, 12 hrs SIP 1600. Csg
SIP 7 a.m. 1/3/71 - 600 psi. (Load 258 bbls).
On 1/3 tbg and csg bled off to 0 in 5 min. Opened bypass
in pkr. Tbg hd press - 250 psi. Tbg underbalanced. Opened
tbg and well flowed back 20 bbls. RU Dow. Circ 70 bbls
11# SW down csg and out tbg. Well would not equalize.
Pumped 165 bbls 11# SW down tbg w/csg losing water while
circ. SI well. Tbg hd press - 50 psi, csg press - 0.
Pulled pkr bypass. Tbg press increased to 750 psi in 30
mins. Opened well to flow off. Well flowed 7 1/2 B/H of
10.3# SW. Flowed est 30 bbls to mud tanks in 4 hrs. Acid
gas began flowing. Turned well to pit. Flowed to pit for
1 1/2 hrs; did not flare. Flare returned 6 p.m. 1/3/71.
SI well 13 hrs. SITP 1471 psi. JAN 4 1971

Shell-Brotherson
No. 1-23B4
(WC)
5" Liner at 11,232'

TD 11,232. PB 11,222. Prep to acid treat.
SITP 12 noon 1/4/71 - 2600 psi. Opened well to pit
flaring at 12:15 p.m. Gradually opened chk to 25/64".
At 1:30 p.m. FTP 50 psi. Turned well to tank battery 2:30 p.m.
Well flowed 78 BO in 17 hrs on 25/64" chk and FTP fluctuating
from 75-100 psi. SICP 800 psi. JAN 5 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. Preheating acid in preparation to acidize. SICP 800 psi. Opened csg to pit at 12 noon 1/5/71. Flared gas through 12/64" chk. Flowing CP decreased to 25 psi in one hr. Flared csg until 3:30 p.m. SI well, tbg, and csg 3:30 p.m. Well flowed 9 BO from tbg in last 9 hrs. Pumped 65 bbls 11#/gal SW treated to 150°F down tbg, 2,000 psi on tbg when finished pumping. Press dropped to 1,000 psi in 20 min. Opened tbg. Press bled to 0 in less than one min. Opened pkr bypass. Both tbg and csg press 0. Put on hyd stripper rubber. Released pkr. Reset ret BP at 10,765, pkr at 10,625 w/tbg tail at 10,695. SI well. 12-hr SICP 400 psi. SITP 300 psi. JAN 6 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. No report. JAN 7 1971

Shell Brotherson
No. 1-23B4
(WC) Ford
5" Liner @ 11,232'

TD 11,232. PB 11,222. Prep to acid treat.
On 1/6/71, bled off tbg and csg press to pit. Press tested lines to 6500 psi. Acid treated gross perf intervals 10,650-86 as follows: (All fluids preheated to 115°F.) Spotted acid through pkr bypass - return to pit included estimated 28 BO. Pulled pkr bypass. Treated w/500 gals 15% HCl followed by 2500 gals acetic acid followed with 5000 gals 15% HCl and flushed tbg with 63 bbls fresh wtr. Max rate 5 B/M, avg 4 3/4 B/M. Max press 5000, avg press 4600, final pumping press 500. ISIP 3400, 15 min SITP 2900, 30 min SITP 2700. Opened well to pit. Press bled to 0 in 2 mins. Well flowed water and acid water to pit for 15 hrs; then flared. SI well 5:30 a.m. 1/7/71. SITP at 7 a.m. 1/7/71 = 825. 16 hr SI csg press 1050. Prep to put on well to pit and turn into battery.
On 1/7/71, flowed 52 bbls oil and 9 bbls SW in 22 hrs. Csg flaring to pit 0 press. Tbg 200 psi. 16/64" chk. JAN 8 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. Flowing load back from Zone #5.
On 1/8/71, bled well to pit. Acidized 10,502-10,524
(Zone 4) with 500 gals 15% HCl, 2500 gals acetic acid
followed by 5,000 gals HCl all preheated to 115°F. Max
trtg press 20-5200, avg 4800. Max rate 6 B/M, avg
5 3/4 B/M. Final pump press 4600 B/M, initial press
drop to 3200, 15 min press drop 2900. Job complete
2:30 p.m. 1/8/71. Opened well to pit 3 p.m. SI press
2700 psi. Opened to 1" chk. 5 min SI dropped to 200 psi
FTP 1450 psi through 16/64" chk. Flared to pit 9 hrs.
On 1/9/71 flared to pit from midnight-8:15 a.m. Turned
powdery. Flowed as follows from perfs 10,502-10,524

Time	BO	BW	Chk	FTP
8:15-9 a.m.	25.83	0	32/64"	250
9:00-10 a.m.	10.33	0	24/64"	250
10:00-11 a.m.	27.4	0	24/64"	250
11:00-12 noon	16.9	0	24/64"	200
12 noon-1 p.m.	12.9	0	24/64"	200
1:00-2 p.m.	5.17	0	20/64"	180
2:00-3 p.m.	23.24	0	20/64"	170
3:00-4 p.m.	0	0	20/64"	
4:00-5 p.m.	20.63	0	20/64"	175
5:00-6 p.m.	0	0	20/64"	160
6:00-7 p.m.	12.86	0	20/64"	150
7:00-8 p.m.	12.87	0	20/64"	150
8:00-9 p.m.	2.57	0	20/64"	125
9:00-10 p.m.	18.01	0	20/64"	125
10:00-11 p.m.	0	0	20/64"	125
11:00-12 p.m.	54.15	0	20/64"	100

On 1/10/71, flowed from perfs 10,502-10,524 to battery
as follows:

12:00-1 a.m.	3.86	0	20/64"	100
1:00-2 a.m.	6.43	0	32/64"	100
2:00-3 a.m.	11.8	0	20/64"	100
3:00-4 a.m.	5.13	0	20/64"	100
4:00-5 a.m.	10.29	0	20/64"	100
5:00-6 a.m.	0	0	20/64"	100
6:00-7 a.m.	18.01	0	20/64"	100

Moved tools and acidized zone 10,252-10,380. Opened
chk to kill tbq on 64/64" chk at 7 a.m. Bled well down
and flowed well to battery as follows:

7:00-8 a.m.	41.15	0	1"	100
8:00-9 a.m.	33.44	0	1"	100
9:00-10 a.m.	24.58	0	1"	100
10:00-11 a.m.	12.87	0	1"	100
11:00-12 noon	0	0	-	-

JAN 11 1971

(Cont'd)

Shut well in & loaded tbg with 10.8 SW on vacuum. Released pkr and retrieved BP. Well on vacuum. Set BP at 10,486. Reset pkr at 10,219 straddling perforations 10,252-10,380 and acidized with 500 gals 15% HCl, 2500 gals acetic acid, followed by 5000 gals 15% HCl heated to 115°F. Flushed w/ heated fresh wtr. Max trtg 5000, min 1500, final 5000. Max rate 5 3/4 B/M, min 4 B/M, avg 5 3/4 B/M. SI press dropped to 3200 psi, 15 min SI press 3100 psi.

Job complete 3:53 p.m. (Load 253 bbls). Opened well to pit 4:10 p.m. 1/10/71. Bleeding back weakly at approx 2-3 gals/min. Well died completely at 4 a.m. 1/11/71. Pumped 5 bbls hvy SW down tbg. JAN 11 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. Prep to acidize No. 6 Zone 10,050-10,075'. Moved BP. Pulled pkr loose and ret'd BP. Set BP at 10,237', pkr at 10,157'. Tested BP to 3,000 psi, held ok. Reset pkr at 9,995' over No. 6 Zone 10,050-10,075, w/tail to 10,075. JAN 12 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. Burning small gas flame. With pkr set at 9,995, BP at 10,237 and tail at 10,075', spotted acid over gross perfs 10,050-10,075. Attempted to acidize with 500 gals 15% regular 2500 gals acetic acid, 5,000 gal 15% acid heated to 115°F. Zones communicated around previous sqz job. Backwashed acid. Moved pkr up hole above sqz'd perfs. Pkr at 9833' with tail to 9903'. Respotted acid to pkr. Max trtg press 5200 psi, min - 5100 psi, avg 5200. Max, min, & avg trtg rates 6 B/M. Final trtg press 5200 psi. ISIP dropped to 3600 psi, 15 min press drop to 3250. Job complete 1:23 p.m. 1/12/71. (Load 225 bbls). Opened well to pit; - flowing back weakly approx 2-3 gals per hr. Fluid flow stopped approximately 5 a.m. 1/13/71. JAN 13 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. Going in hole w/tbg, ret head, and left-hand set pkr. Unseated pkr. Circ acid wtr from tbg. Waited on SW. Ret'd BP. Set BP at 9855 above all perfs. Circ'd hole and cleaned up. Wtr wt - 10.8#. Ret'd BP. Pulled tbg, BP, and pkr. (Two jts and collars badly pitted w/acid). JAN 14 1971

Note: Approx 15-20 jts badly pitted w/acid.

Shell Brotherson
No. 1-23B4
(WC) Ford
5" Liner at 11,232'

TD 11,232. PB 11,222. Waiting on hvy SW
Losing fluid to hole while running retrieving head
and pkr. Replaced total 29 jts 2 7/8" N-80 tbg due
to being in bad condition from acid exposure. On JAN 1 5 1971
bottom at 10,150'; losing some fluid. Circulated and
went down to BP at 11,000'. Washed off approx 5' fillup from top
of "DR" plug. Lost approx 190 bbls wtr to formation. Partial
returns very badly gas cut. Waited on hvy SW from well at
Moab, Utah - total of 160 bbls. When wtr arrives on location
will check wtr wt at 10.1#. Checked wtr wt from well at 10.7.
Checked mixing of wtr 50/50% - no appreciable salt precipitated
out. Checked brine at various temps, heat rise, & heat drops;
seemed ok. Ordered addt'l 240 bbls brine from Moab for back-up
systems before testing to rewash over DR plug at 11,000'.

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" liner at 11,232'

TD 11,232. PB 11,222. Flowing. JAN 1 8 1971
In last 24 hrs, flowed to tank at rate of 566 BO and
72 BW. TP 125. (Total 86½ hrs - 1712 BO and 442 BW)

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" liner at 11,232'

TD 11,232. PB 11,222. Prep to pull "DR" plug.
Press dropped and well died at 6 p.m. 1/18/71. At
1 a.m., pumped 30 bbls hot wtr down tbg. Press'd to
2,000 psi and well went on vacuum. Well still dead at
7 a.m. 1/19/71. Produced 131 BO and 23 BW in 11 hrs.
(Total produced in 97½ hrs - 1843 BO and 465 BW) JAN 1 9 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" liner at 11,232'

TD 11,232. PB 11,222. Installing tbg spool.
Unseated pkr. Retrieved "DR" plug and pulled tbg.
Ran Bkr A/C, 1 jt 2 7/8" N-80 tbg, 1 - 2 7/8" cup-type
seating nipple, 175 jts 2 7/8" N-80 tbg, 1 - 2 7/8" x 4½"
swage, 1 - 6½" x 4½" csg sub, 1 Bkr 3.25 bowl seal receptacle,
and 122 jts 4½" csg. JAN 2 0 1971

Shell-Brotherson
No. 1-23B4
(WC) Ford
5" liner at 11,232'

TD 11,232. PB 11,222. Blowing well down.
Pulled 4½" csg. Heated upper string. Ran additional
12 stands 2 7/8" tbg. Reran 4½" csg. Heated upper
string. Spaced out and reset A/C. Landed on 4½" donut.
Well kicking. JAN 2 1 1971

Shell-Brotherson
No. 1-23B4
(WC)
5" liner at 11,232'

TD 11,232. PB 11,222. MOCR. JAN 2 2 1971
Ran 129 jts 2 7/8" tbg and seated in bowl seal assembly.
Released rig 1-22-71. (RD until well tests are established).

CASING AND CEMENTING

Area: No. Uinta Basin

Well: Brotherson 1-23B4

KB to CHF: 12'

Shoe joint started in hole 8/17/70.

Ran 41 jts. 5", N-80 FJ hyd liner at 11,232'.

<u>Jts.</u>	<u>Wt.</u>	<u>Grade</u>	<u>ST&C</u> <u>LT&C</u>	<u>New</u>	<u>Feet</u>	<u>From</u>	<u>To</u>
41	18#	N-80			1,743'		11,232'

41 Jts. Total

Brown Oil Tool Shoe at 11,232'

Brown Oil Tool plug stop @ 11,144'

Top of Brown hanger at 9,489'

No. Make & Type:

2 B & W centralizers spaced at 11,226 and 11,196.

Cementing: Ran and cem 5" N-80 FJ hydril liner at 11,232' w/25 sx 25-75 pozmix, 4% gel, followed by 155 sx Class "G" cement w/12.5#/sx Gilsonite, .6% HR-4. Plugs: 1 top rubber plug and 1 bottom. Press'd plug to 2,000 psi w/102 bbls. mud. Good circ. No cem returns.

Mixing time	8 min.
Plug time	1 min.
Displacing time	46 min.
Finished job	10:30 p.m. 8/17/70

Shell-Brotherson
1-23B4
(WC)
5" Liner at 11,232'

TD 11,232. PB 11,222. Flowing (RRD 1/22/71).
On 24-hr test, flowed 214 BO and 42 BW. FEB 3 1971

Shell-Brotherson
1-23B4
(WC)
5" Liner at 11,232'

TD 11,232. PB 11,222. OIL WELL COMPLETE..
On 24-hr test 2/3/71, well flowed 185 BO, 31 BW, &
200 MCF (GOR 1081) from the Green River perms 11,214-20,
11,198-204, 11,188-194, 11,140-152, & 11,108-120, 10,919-
10,926, 10,935-10,972, 10,778-80, 10,789-95, 10,800-805,
10,808-812, 10,819-28, 10,836-50, 10,863-69, and 10,873-884,
10,650-10,658, and 10,663-686, 10,502-524, 10,252-256, 10,314-
321, 10,356-10,368, and 10,374-380, and 10,050-075. FTP 250.
18/64" chk. CP 800.

Test date 2/3/71. Completion date - 1/29/71.

Oil Gv. - 44° @ 60°F.

Elev: 6303 KB

Log Tops:

TGR₁ 4623 (+1680)

TGR₂ 7493 (-1190)

TGR₃ 8890 (-2587)

This well produces from the Lower Green River (Tertiary)
fracture systems in an interval structurally and strati-
graphically higher than the Wasatch producing zone of the
Shell-Miles #1 located in the Altamont Field.

FINAL REPORT. FEB 4 1971

UINTA BASIN GAS PRODUCTION AND DISPOSITION

THE STATE OF UTAH
DIVISION OF OIL AND GAS CONSERVATION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> (Well presently shut in)		5. LEASE DESIGNATION AND SERIAL NO. Patented
2. NAME OF OPERATOR Shell Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 1700 Broadway, Denver, Colorado 80202		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' FNL and 2131' FEL Section 23		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO. API 43-013-30038		9. WELL NO. 1-23B4
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6303 KB, 6288 GL		10. FIELD AND POOL, OR WILDCAT North Uinta Basin
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW/4 NE/4 Section 23-T2S-R4W
		12. COUNTY OR PARISH Duchesne
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT & ACIDIZE <input checked="" type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(Other) Plug Back Wasatch and Test Grn River

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

As per attached prognosis

NOTE: If any of the three test intervals are found to be water bearing or not commercially oil productive, a short term injectivity test will be made to provide data in regard to possible produced water injection (maximum injection 5 hrs or 1000 bbls water per test interval).

APPROVED BY DIVISION OF
OIL & GAS CONSERVATION

DATE AUG 28 1974

BY *[Signature]*

18. I hereby certify that the foregoing is true and correct

SIGNED

[Signature]

TITLE Division Operations Engr.

DATE 8/19/74

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

PRODUCTIVITY/INJECTIVITY TESTING PROGRAM

SHELL BROTHERTON 1-23B4

SECTION 23, T2S, R4W

DUCHESNE COUNTY, UTAH

PERTINENT DATA

Elevation: 6,303' KB

KB - GL: 15'

TD: 11,232'

PBTD: 11,222'

20" Casing @ 40'

9-5/8" Casing @ 2,450'

7" Casing @ 9,905' (cement top by temp. survey @ 5,950')

5" Liner @ 11,232' (top @ 9,489')

Perforations: 11,108' - 11,220' (5 intervals)

10,050' - 10,926' (18 intervals)

9,922' - 10,066' (sq w/400 sx)

Baker "FA" Packer @ 11,000' w/o flapper

2-7/8" tubing @ $\pm 4,025'$

4-1/2" - 2-7/8" combination tubing string @ 9,330' (4-1/2" to $\pm 4,025'$ and 2-7/8" below, with Baker anchor catcher @ 9,330')

PROCEDURE

- (1) Circulate tubing and annuli with water until balanced.
- (2) Remove tree and install BOP assembly.
- (3) Pull tubing(s).
- (4) Set permanent cement retainer in 7" casing at ~~$\pm 9,700'$~~ $\pm 9,400'$.
- (5) Mix and pump 100 sacks cement below retainer. Leave retainer as a permanent bridge plug, capped with several ~~200~~ ²⁰⁰ of cement. *BPO 9300, Packer.*
- * (6) Run retrievable full-bore packer on 2-7/8" tubing and set at 8,900'.
- (7) Pressure test tubing, packer setting, 7" casing below packer, and cement plug to 5,000 psi with water.
- (8) With fresh water in tubing, perforate the following intervals with one hole per foot using a decentralized (3 magnets) 2" steel, hollow carrier, through tubing gun loaded with Harrison RT or Schlumberger Hyperjet 6.2 oz. charges (all depths refer to GR/FDC log dated 7-15-70).

9098, 9099, 9100, 9101, 9102, 9103, 9104, 9105, 9106

9269, 9270, 9271, 9272, 9273, 9274, 9275, 9276

- (9) Open well immediately. If well does not flow, swab well to establish inflow and to remove debris from perforations.
- (10) Acid treat perforations with 3,500 gallons 15% HCL as follows:
 - (a) Pump 10 bbls acid
 - (b) Drop one 7/8" (sp. gr. 1.24) RCN ball sealer followed by 2 bbls acid
 - (c) Repeat step 10 (b) 33 times for a total of 34 ball sealers and 68 bbls of acid.
 - (d) Pump 5 bbls acid without Unibeads.

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO. Patented
2. NAME OF OPERATOR Shell Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 1700 Broadway, Denver, Colorado 80202		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' FNL and 2131' FEL Section 23		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO. API 43-013-30038		9. WELL NO. 1-23B4
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6303 KB, 6288 GL		10. FIELD AND POOL, OR WILDCAT North Uinta Area
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW/4 NE/4 Section 23-T2S-R4W
		12. COUNTY OR PARISH Duchesne
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input checked="" type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Plug Back Wasatch and Test Grn River	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

See attachment

18. I hereby certify that the foregoing is true and correct

SIGNED

J. W. Lynne

TITLE Div. Opers. Engr.

DATE 7/31/75

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

SHELL OIL COMPANY

LEASE BROTHERTON

WELL NO. 1-23B4

DIVISION WESTERN

ELEV 6303 KB

COUNTY DUCHESNE

STATE UTAH

FROM: 8/27/74 - 7/8/75

UTAHNORTH UINTA AREA

Shell-Brotherson 1-23B4
(Plug back Wasatch and
test Green River)

"FR" TD 11,232. PB 11,222. Installing BOP. AFE #516497 provides funds to plug back Wasatch formation and to perf, AT and test Green River. On 8/26/74, MI&RU Western Oilwell Service Company rig #17.

AUG 27 1974

Shell-Brotherson 1-23B4
(Plug back Wasatch and
test Green River)

TD 11,232. PB 11,222. Prep to pull 4-1/2" csg. Flwd to pit 2 hrs. Killed well w/wtr. Removed QD slips, installed BOP, circ tbg and csg w/hot wtr, unlatched from seal assembly at 4025' and circ 4-1/2" csg w/hot wtr. Pulled 4025' of tbg. Installed BPV, removed tbg spool and removed BOP.

AUG 28 1974

Shell-Brotherson 1-23B4
(Plug back Wasatch and
test Green River)

TD 11,232. PB 11,222. Running CR. WO 4-1/2" EUE 8rd thrd x 2-7/8" EUE 8rd thrd swage to screw into donut. Circ well w/prod wtr and killed well. Pulled and laid down 4-1/2" 8rd csg. Pulled tbg and anchor catcher and set in derrick.

AUG 29 1974

Shell-Brotherson 1-23B4
(Plug back Wasatch and
test Green River)

TD 11,232. PB 11,222. Running BP and pkr. Ran Baker CR on tbg, setting ret at 9431. Press tested tbg to 5000 psi, OK. Established inj rate of 2-1/4 B/M at 3500 psi. Mixed 100 sx Class "G" cmt w/0.35% R-5. Slurry vol 20 bbls. Pmpd 18.5 bbls slurry below CR, unlatched from ret and sptd 1.5 bbls on top of ret. Est cmt top at 9408. Pmpd cmt and flush at rate of 2 B/M. Avg press 3100 psi. Pulled 2 stds tbg. Reversed tbg vol and pulled out of hole. Picked up Baker ret BP and full bore pkr and started running on tbg.

AUG 30 1974

Shell-Brotherson 1-23B4
(Plug back Wasatch and
test Green River)

TD 11,232. PB 11,222.

8/31: Checking for tbg leak. Finished running tbg. Finished running tbg. Set BP at 9290 and pkr at 8874 (WL measurements). Tested BP to 5000 psi, OK; tested csg to 3000 psi OK; tested tbg to 5000 psi, losing 400 psi in 10 min. Released pkr and sptd 2 sx sd on BP.

9/1: Rig SD on Sunday.

9/2: Swabbing. Set pkr at 8874. Torqued tbg. Tested tbg to 5000 psi, losing 125 psi in 30 min. Landed tbg on donut, installed BPV, removed BOP, installed 10,000# Xmas tree, Removed BPV and tested tree and tbg to 5000 psi, losing 130 psi in 30 min. RU OWP and perf'd 1 hole unidirectionally at following depths using 2" steel tube carrier gun w/magnetic top, btm and middle Harrison RT jets: 9098, 9099, 9100, 9101, 9102, 9103, 9104, 9105, 9106, 9269, 9270, 9271, 9272, 9273, 9274, 9275, 9276. Press from 50 to 150 psi. RD OWP. RU swab and swbd 6 BW in 1-1/2 hrs. Had difficulty getting swab through tbg collars.

(Continued)

SEP - 3 1974

Shell-Brotherson 1-23B4

(Continued)

9/3: Prep to MOCR. TP 200 psi. Bled off tbg. Swbd est 60 BW and 9 bbls Gilsonite in 8 hrs. Last hr swbd 3 bbls Gilsonite, no wtr and sml amt of gas, swbg from 2500'.

SEP - 3 1974

Shell-Brotherson 1-23B4
(Plug back Wasatch and
test Green River)

TD 11,232. PB 11,222. SI. TP on 9/3 450 psi. Flwd to pit, flwg gas and diesel. Well died. Flwd approx 3 bbls diesel (had pmpd 5 bbls). Pmpd 60 bbls of 150 deg prod wtr down tbg. Max press 3500 psi, avg 2800 psi, min 2300 psi. ISIP 1500 psi. Pmpd at rate of 3 B/M. SI well. Released rig 9/3/74. (Reports dis- SEP - 4 1974 continued until further activity.)

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Swabbing (RRD 9/4/74)
On 1/10 MI&RU Colo. Well Service. SITP 100 psi. Flowed to 0 with 1/2 BW. Swabbed 16 bbls wtr & 10 bbls hvy oil in 2 hrs. On last pull oil set up in flow line. FL 3500'. SI well for night.

FEB 11 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Prep to swab. SITP 0. Attempted to lower swab. Pmp'd 15 bbls hot wtr down tbg & swabbed FL down to 6000'. Recovered 16 BO & 15 BW. Last 2 hrs swabbed 5 bbls oil. MI&RU B.J. & AT gross perfs 9098-9276 w/3500 gals 15% HCl. All acid except last 5 bbls contained the following additives/1000 gals: 3 gals G-10, 3 gals C-15, 3 gals J-22, 30# OS-130 Button Unibeads. Pmp'd 10 bbls acid, dropped 1 7/8" RCN ball sealer. Spec. grav. 1.24 followed by 2 bbls acid. Repeated dropping 1 ball sealer in 2 bbls acid 33 additional times for a total of 34 ball sealers & 68 bbls acid. Pmp'd 5 bbls acid w/o Unibeads. Flushed w/2800 gals produced 1se wtr containing 3 gals G-10/1000 gals. Instantaneous SITP 1400 psi, 5 mins 900, 10 mins 850, 15 mins 650. Max rate 7-1/2 B/M, avg 4-1/2, min 1-3/4. Max trtg press 8100 psi, min 0, avg 3500 psi.

FEB 12 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Attempting to swab. SITP 0. Tbg full. Attempted to run swab & could not get through tree filled w/Unibeads. Flowed Unibeads for 2 hrs @ 2 bbls/hr. Swabbed acid wtr to 4600'. Recovered approx 30 bbls load. Paraffin plug moved up hole to 2500'. Backed down w/15 bbls hot wtr. Swabbed 15 bbls plus approx 3 bbls acid wtr & trace of "tarry" oil. Swabbed to 3000'. Another plug moved up hole to 2500'. No fluid above plug.

FEB 13 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Installing BOP. SITP 250 psi. FL 1000'. Could not get swab down below 1000'. Backed down w/5 bbls hot wtr. Swabbed 5 bbls back & approx 3 bbls acid wtr & 1 bbl hvy oil. Backed down an additional 2 more times. Total recovery excluding back down 20 BW, 5 BO. Pmp'd 53 bbls 180 deg wtr down tbg. MI&RU BJ. Est. injectivity of gross perfs 9098-9276 as follows using 100 deg lse prod wtr: 1/4 B/M @ 650, 1/2 @ 800, 1 @ 1000, 2 @ 1350, 4 @ 2200, 7-3/4 @ 4000. Pmp'd approx 180 bbls into formation

FEB 14 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. 2/14 backed down tbg w/20 bbls hvy salt wtr & installed back press valve. Removed X-mas tree. Installed BOP's. Removed donut. Press tested csg & blind rams to 3000 psi. Held ok for 15 mins. Released pkr. Ran 15 jts to 10' above BP @ 9311. Circ'd hole. Sat down on sd. Unloader on pkr open, would not allow circ on sd. SD for night. 2/15 thawing out well-head. Cont'd to reverse circ in attempt to latch onto BP. Could not get circ to btm of pkr. Unloader valve open. Pulled 80 stds of tbg. Set pkr, closed well in. SD for night. 2/16 & 2/17 SD. 2/18 POOH.

FEB 18 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

8871
TD 11,232. PB 11,222. Prep to perf. PU 7" Bkr full bore retrievematic set down pkr & retrieving sub. Ran in hole. Washed sd. PU ret. BP @ 9310 & reset BP @ 8871. Pulled out 1 std. Tested BP to 5000 psi, held ok. Dropped 2 sx sd on BP. Pulled pkr & set @ 8137. Landed in donut. Tested BP, pkr, tbg & csg between 871 & 8137 w/5000 psi fresh wtr for 20 mins, held ok. SD for night.

FEB 19 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Swabbing. 2/19 MI&RU OWP... Perf'd one hole/ft using decentralized unidirectional 2" steel hollow carrier through tbg gun loaded w/Harrison RT 6.2 oz charges @ following depths: On Run #1 perf'd one hole at the following depths: 8680, 8679, 8678, 8677, 8676, 8675, 8674, 8673, 8672, 8601, 8600, 8599, 8598, 8597, 8584, 8583, 8582, 8581, 8580, 8514, 8513, 8512, 8511, 8510, 8509, 8508, 8498, 8497, 8496, 8495, 8494, 8493, 8492, 8481, 8480, 8479. On Run #2 perf'd one hole at each of following depths: 8478, 8477, 8476, 8475, 8474, 8468, 8467, 8466, 8465, 8464, 8450, 8449, 8448, 8447, 8446, 8445, 8444, 8389, 8388, 8387, 8386, 8385, 8384, 8383, 8382, 8381, 8380, 8379, 8378, 8309, 8308, 8307, 8306, 8305, 8304. No press before or after either run. Total of 71 holes. All depths refer to GR/FDC log dated 7/15/70. RD OWP. Swabbed 37 BW. FL 6300'. MI&RU BJ. AT gross perms 8304-8680 w/12,600 gals 15% HCl containing 3 gals G-10, 3 gals C-15, 3 gals J-22 & (except for last 5 bbls) 30# OS-130 Wide Range Unibeads & 30# OS-130 Button Unibeads/1000 gals. Flushed w/2850 gals prod lse wtr containing 3 gals G-10/1000 gals. Pmp trtmt as follows: Pmp'd 10 bbls acid, dropped 1 7/8" RCN ball sealer followed by 2 bbls acid. Repeated dropping 1 ball sealer & pmp'g 2 bbls acid an additional 141 times for a total of 284 bbls acid & 117 ball sealers (discont'd drop'g sealers after trtmt) balled out w/83 balls on form. Balled out 9 times. Bled perms back to drop balls. Finished trtmt. Pmp'd w/5 bbls acid w/o Unibeads, then pmp'd to flush. ISIP 1500 psi, 5 mins 1200, 10 mins 1000, 15 mins 900. Max trt'g press 8100 psi, min 2000, avg 4500. Max rate 10 B/M, min 2-1/2, avg 8.

FEB 20 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Swabbing. SITP 0. Swabbed 40 bbls acid wtr. Well flowed 5 bbls acid wtr & died. Could not get swab below 1500'. Backed down w/hot wtr several times. Swab would not drop through hvy oil at 1500'. Backed well down w/45 bbls 150 deg diesel. SD for night.

FEB 21 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. 2/24 Pulling out of hole. SITP w/diesel in hole 350 psi. Flowed 25 bbls diesel. Swabbed 20 bbls diesel & well started flowing. Flowed 3 to 5 bbls hvy oil & wtr. Tbg plugged. Pmp'd 70 BW down tbg @ 2 B/M @ 1200 psi. PU BP & reset @ 8100. Set pkr @ 7080. Tested BP, would not hold. Pmp'd by @ 1200 psi. SD for night. PU 34 jts. Reset BP @ 8070. Retested, would not hold. Circ'd hole clean. Started out w/tbg, BP & pkr. Csg full tbg running over. Circ'd 100 bbls of 10# salt wtr in top 2500' of hole. SD for night & Sunday.

FEB 24 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Prep to perf. Set new ret. BP @ 7664. PU 1 jt & set pkr. Tested BP to 5000 psi, held ok. Tested csg to 3000 psi, held ok. Released pkr & circ'd 50 bbls 160 deg wtr down tbg. Spotted 3 sx w/41 BW down tbg. Reset pkr @ 7115. Removed BOP & installed 10,000# X-mas tree.

FEB 25 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Prep to swab. Press tested X-mas tree to 7500 psi, held ok. Tested csg & pkr to 2000 psi, held ok. MI&RU OWP & perf'd 1 hole/ft using decentralized unidirectional 2" steel hollow carrier through tbg gun loaded w/Harrison RT 6.2 oz charges @ following depths: 7488, 7487, 7486, 7485, 7484, 7483, 7482, 7481, 7480, 7475, 7474, 7473, 7472, 7471, 7470, 7469, 7268, 7267, 7266, 7265, 7264, 7263. Total 22 holes. All depths refer to GR/FDC log dated 7/15/70. 0 press @ start, 50 psi in 15 mins. Swabbed 32 BW. Took FL to 5600'. Slight blow of gas on last swab run. MI&RU BJ & AT gross perfs 7263-7488 w/4200 gals 15% HCl containing 3 gals G10, 3 gals C15, 3 gals J22 & (except for last 5 bbls) 30# OS-130 Wide Range Unibeads & 30# OS-130 Button Unibeads/1000 gals. Flushed w/2650 gals prod lse wtr containing 3 gals G10 per 1000 gals. Pmp trtmt as follows: Pmp'd 10 bbls acid, dropped 1 7/8" RCN ball sealer followed by 2 bbls acid. Repeated dropping 1 ball sealer & pmp'g 2 bbls acid an additional 41 times for a total of 42 balls & 84 bbls acid. Pmp'd 5 bbls acid w/o Unibeads. Flushed w/53 bbls prod wtr. ISIP 1600 psi, 5 mins 950, 10 mins 900, 15 mins 900. Max trt'g press 7400 psi, min 0, avg 4000. Max rate 6-1/2 B/M, min 1-3/4, avg 5-1/2.

FEB 26 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI. Thawed wellhead. Flowed 2 BW. Swabbed 25 BW & approx 5 bbls hvy brn oil. FL stabilized @ 4000'. After recovering oil, could not get swab into fluid. Backed well down w/60 bbls prod lse wtr & 10 bbls diesel. Pmp'd into formation @ 2-1/2 B/M @ 2000 psi. Released rig. (Report discontinued until further activity.)

FEB 27 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. (RRD 2/27/75) Retrieving BP & pkr. On 3/18 MI&RU Western Oilwell Service Rig #17. Installed back press valve & BOP and tested to 5000 psi, held ok. (New AFE #518814)

MAR 19 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. G.I.H. w/pkr & 4-1/2" csg. Circ hole clean. Ran in tbg. Circ sd & pulled BP & pkr. Pulled tbg spool. Ran pkr & 2-7/8" tbg. Tallied 4-1/2" csg.

MAR 20 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Run'g prod equip. Fin'd run'g
4-1/2 heat string. Circ inhibited wtr in annulus. Started
run'g 2-7/8" tbg.

MAR 21 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI. Ran prod equip as follows:
Bkr Model 47B4 7" lock set pkr hung in tension; btm @ 7164,
top 7160. 2 jts 2-7/8 EUE N-80 tbg, +45 seating nipple @
7095 then 106 jts 2-7/8 N-80 tbg, then 2-7/8 x 4-1/2 non-
upset swage @ 3994, then 4-1/2 steel bore receptacle @ 3993
then 131 jts 2-7/8 N-80 tbg hung w/10,000# tension, 121 jts
4-1/2 non-upset csg from 3993 to surface (heat string). USI
RHBC insert pmp, 2-1/2 x 1-3/4 w/plunger, 128 3/4" sucker rods,
80 7/8" sucker rods, 73 1" sucker rods. Install surface
pmp'g equip. Backed well down w/25 bbls diesel prior to
setting & spacing out pmp. Released rig 3/21/75. MAR 24 1975

2/22-24/75

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

MAR 25 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222.
(Report discontinued until test established)

MAR 26 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. (RRD 3/26/75) Pmp'g. Pmp'd as follows:

Date	Hrs	BO	BW	MCF Gas	- 8 SPM w/50 FTP
5/11	24	120	0	0	
5/12	24	127	36	0	
5/13	24	152	42	0	
5/14	24	94	57	N/A	

MAY 14 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 104
BO & 7 BW @ 8 SPM.

MAY 15 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 121
BO & 88 BW @ 8 SPM.

MAY 16 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232.	PB 11,222.	Pmp'g.	On various tests, pmp'd:
<u>Rept Date</u>	<u>Hrs</u>	<u>BO</u>	<u>BW</u> @ 8 SPM
<u>5/17:</u>	24	105	66
<u>5/18:</u>	24	111	38
<u>5/19:</u>	24	120	14

MAY 19 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River).

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 130
BO 1 BW @ 8 SPM.

MAY 20 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 118
BO, 0 BW @ 8 SPM.

MAY 21 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 14-hr test, pmp'd 60
BO, 0 BW @ 8 SPM.

MAY 22 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 125
BO, 0 BW @ 8 SPM.

MAY 23 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232.	PB 11,222.	Pmp'g.	On various tests, pmp'd:
<u>Rept Date</u>	<u>Hrs</u>	<u>BO</u>	<u>BW</u> - 8 SPM
<u>5/24:</u>	24	104	4
<u>5/25:</u>	24	107	3
<u>5/26:</u>	24	135	4
<u>5/27:</u>	24	130	22

MAY 27 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 109
BO, 43 BW - 8 SPM.

MAY 28 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 74
BO, 33 BW - 8 SPM.

MAY 29 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

MAY 30 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 02 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 03 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 04 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 05 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 06 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 09 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 10 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 50 BO,
62 BW, 14 MCF gas - 8 SPM, 102" stroke.

JUN 11 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 49 BO,
1 BW, 14 MCF gas.

JUN 12 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 25 BO,
118 BW, 14 MCF gas - 8-102 SPM.

JUN 13 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On various tests, pmp'd:

Rept Date	Hrs	BO	BW	MCF Gas - 8-102 SPM
6/14:	24	0	14	3
6/15:	24	40	4	6
6/16:	24	30	2	4

JUN 16 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 0
BO, 1 BW, 2 MCF gas - 8-102 SPM.

JUN 17 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 8 BO,
2 BW, 0 MCF gas - 8-102 SPM.

JUN 18 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 11 BO,
2 BW, 2 MCF gas - 8-102 SPM.

JUN 19 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. SI.

JUN 20 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

Rept Date	Hrs	BO	BW	MCF Gas
6/21 & 6/22:	SI			- 8-102 SPM.
6/23:	19	74	96	2

JUN 21 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 69
BO, 76 BW, 2 MCF gas - 8-102 SPM.

JUN 24 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 151
BO, 55 BW, 5 MCF gas - 8-102 SPM.

JUN 25 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 62
BO, 54 BW, 7 MCF gas - 8-102 SPM.

JUN 26 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 37
BO, 43 BW, 14 MCF gas - 8-102 SPM.

JUN 27 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

Rept Date	Hrs	BO	BW	MCF Gas
6/28:	24	55	42	14
6/29:	24	70	17	12
6/30:	24	40	38	9

On various tests, pmp'd:
- 8-102 SPM.

JUN 30 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 29 BO,
10 BW, 11 MCF gas - 8-102 SPM.

JUL 01 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 55
BO, 17 BW, 14 MCF gas - 8-102 SPM.

JUL 02 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. Pmp'g. On 24-hr test, pmp'd 41 BO,
20 BW, 14 MCF gas - 8-102 SPM.

JUL 03 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

Rept Date	Hrs	BO	BW	MCF gas	SPM	FTP
7/4:	24	33	17	14	8/102"	30
7/5:	24	29	16	14	8/102"	30
7/6:	24	25	19	14	8/102"	30
7/7:	24	9	21	14	18/102"	30

JUL 07 1975

Brotherson 1-23B4
(Plug Back Wasatch and
Test Green River)

TD 11,232. PB 11,222. PLUG BACK TO GREEN RIVER COMPLETE.
On 24 hr test pumped 25 BO, 19 BW and 14 MCF gas from gross
Green River perfs 8304-8680' & 7263-7488'. 8 SPM x 102"
stroke 2-1/2" x 1-3/4" pump. Recompletion date 3/21/75.
Test date 7/5/75. JUL 08 1975
FINAL REPORT.

STATE OF UTAH
OIL & GAS CONSERVATION COMMISSION

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. Patented
2. NAME OF OPERATOR Shell Oil Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR 1700 Broadway, Denver, Colorado 80290		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' FNL & 2131' FEL Section 23		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO.		9. WELL NO. 1-23B4
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6303 KB		10. FIELD AND POOL, OR WILDCAT North Uinta Area
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW/4 NE/4 Section 23-T2S-R4W
		12. COUNTY OR PARISH Duchesne
		13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input checked="" type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input checked="" type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

APPROVED BY THE DIVISION OF
OIL, GAS, AND MINING

DATE: June 8, 1977

BY: P. L. Bussell

See Attachment

18. I hereby certify that the foregoing is true and correct

SIGNED

P. L. Bussell

TITLE Div. Oper. Engr.

DATE 6/2/77

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

cc: USGS w/attachment

RECOMPLETE

SHELL OIL COMPANY

LEASE BROTHERSON

WELL NO. 1-23B4

DIVISION WESTERN

ELEV 6303 KB

COUNTY DUCHESNE

STATE UTAH

FROM: 11/10/76 - 5/18/77

NORTH UINTA AREA

UTAHNORTH UINTA AREAShell-Brotherson 1-23B4
(Recomp)

"FR" TD 9431. PB 9408. AFE #420817 provides funds to recomplete well. On test 7/76 prod 20 BO & .2 BW in 24 hrs. MI&RU Rig #19. MI&RU HOT & circ'd wtr down heatstring; unable to unseat pmp. SI well for night. NOV 10 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. MI&RU HOT & circ'd wtr down heatstring. Pulled 40,000# on rods; pmp would not unseat. Press'd heatstring & csg to 2500# & stroked pmp. Bled off press & cont'd to circ & stroke pmp. Pulled up to 50,000# on rods; pmp would not unseat. Tried to pmp warm diesel down tbg. TP up to 500# w/4 bbls down tbg. SI well for night. NOV 11 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. MI&RU HOT. Pmp'd hot diesel down tbg. TP up w/3 bbls diesel down. Pulled 50,000# on rods; pmp would not unseat. Stacked out rods & pulled 18" out of seal receptacle. Circ'd hot wtr to est communication. Pmp'd 30 bbls diesel foll'd w/wtr; pmp still seated. Circ'd 7-1/2 bbls 15% HCl foll'd by 40 BW & pulled up to 50,000#; still stuck. Circ'd rest of acid & flushed w/60 BW. Pulled up 50,000# on rods; pmp would not unseat. SI well for night. NOV 12 1976

NORTH UINTA AREAShell-Brotherson 1-23B4
(Recomp) NOV 15 1976

TD 9431. PB 9408. 11/12: Pulled 6925' of rods. 11/13: Pulled 131 jts 2-7/8" N-80. 4-1/2" donut would not unseat from hanger. Heated hanger. Pulled 20 jts 4-1/2" heat string.

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Finished pulling heat string. Pulled 3200' 2-7/8" tbg w/pump. Pump was stuck in tbg due to 10' of sand fill. Picked up 6-1/2 "FB" mill & RIH on 2-7/8" tbg. SI for night. NOV 16 1976

NORTH UINTA AREAShell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Finished RIH w/tbg & mill. Tagged bottom @ 7540'. Started milling. Plugged w/scale & sand. Cleaned out mill. Made 40'. NOV 17 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. CO from 7540 to 8871. Circ approx
400 bbls H2O. POOH w/mill. NOV 18 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. MI&RU OWP. RIH w/CIBP & hit wax plug
@ 140'. Circ'd 100 BW & POOH. RIH w/CIBP & hit wax plug
@ 45'. Ran Bkr csg scraper & circ'd 100 bbls hot wtr.
Set CIBP @ 8725. RD&MO OWP. Set cmt ret @ 8110. MI&RU
Hal & tested sfc lines to 8500 psi, ok. Est inj rate of
5 B/M @ 1800#. Pmp'd 100 sx Class G cmt to ret. Slowed
pmp down for 7 bbls w/max press below ret. Overdispl'd
cmt w/5 bbls & waited 1 hr. Pmp'd 100 sx Class G cmt to
ret in 1/2-bbl stages w/5-10 mins betwn stages. Max press
800 psi. Overdispl'd cmt to btm perfs. Pulled out of
ret & backflushed tbg. Pulled 500' tbg & SI overnight.
Prep to resqz. NOV 19 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. No report.

NOV 22 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. 11/19 Spt'd 100 sx Class G cmt @
8110'. Displ'd cmt 1/2 bbl below ret. Staged cmt 10 to
15 mins betwn stages. Displ'd cmt to btm perfs. Spt'd
200 sx Class G cmt 14.8#/gal 4 bbls short of ret @ 8110'.
Pmp rate 1/2 B/M. Two hrs staged cmt w/10-20 mins betwn
stages. Final sqz 3600# on perfs 8304-8680; held 5 mins.
Pulled 16 stds to 7150'. 11/20 Set Model K cmt ret @
7049 to sqz 7263-7488. Spt'd 200 sx Class G w/retarder
15.8#/gal. Spt'd cmt 5 bbls short of ret. Pmp'd cmt
1/2 bbl below ret. Staged cmt below ret in 10-15 min
stages; 3500# sqz. Three bbls cmt left above perf. Pulled
44 stds tbg. 11/22 POOH w/2-7/8 tbg. RIH w/6-1/8" rock
bit on tbg. Tag'd ret @ 7049'. Cut thru cmt ret to
7224'. NOV 23 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Drld & CO to 7482; btm perf @ 7488.
Prep to drl cmt ret @ 8110. Good cmt from 7049-7482.

NOV 24 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Cont'd drlg & CO. Ran out of cmt @
7510'. Tag'd cmt ret @ 8110 & drld thru cmt to 8170'. SI
well.

NOV 29 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. POOH w/2-7/8 tbg, DC's & bit. Bit had
some teeth missing & bearings were loose, but free. PU
new 6-1/8" rock bit & DC's & RIH on 2-7/8 tbg. Drld & CO
to 8200'; good cmt. SI for night.

NOV 30 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. CO to 8654; good cmt. Btm perf @
8680, CIBP @ 8725 & CO to 9425.

DEC 01 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. (Corr to rept of 12/1: CO to 8625)
Ran out of cmt @ 8645 & tag'd CIBP @ 8725. Drld & CO
CIBP. Tag'd btm @ 9298. Drld 3 hrs; made 1'. Bit keeps
plug'g. Pulled up 1' & circ'd 400 BW; same fluid loss.
Pulled tbg, DC's & bit. SI for night.

DEC 02 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Drld & CO to 9333'; made 33'. Bit
plug'g; circ'd 200 BW. Return wtr indicated sd or scale
fill. POOH & SI for night.

DEC 03 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Drld & circ'd sd & scale to 9398; bit
plug'd several times. Circ'd 400 BW & POOH w/tbg, DC's &
bit. RIH w/7" ret FB pkr & 2-7/8 tbg. SD for night. 12/4
MI&RU Sun WL & HOT. Circ'd hot diesel down tbg to cut hvy
wax @ 4600; made 1000' in 2 hrs. Circ'd 60 bbls diesel
down tbg & SI tbg 1 hr. Cut 10' of wax; unable to cut thru
@ 4710'. RD&MO WL & HOT. SI well.

DEC 06 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Ran tbg & repl'd 5 plug'd jts. Set
7" ret pkr @ 8812. Drop'd SV & press'd tbg to 1000 psi.
Stop'd pmp'g & press drop'd instantly; tbg would not hold
press. Retrieved SV & SI for night.

DEC 07 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9408. Ran new SV; tbg would not hold press.
Found leak 2625' down tbg. Repl'd & reran tbg. Press'd
to 7000# 45 mins, ok. Retrieved SV. MI&RU Hal & pmp'd 10
bbls acetic acid; left 2 bbls short of end of tbg & set
Bkr 7" pkr. Pmp'd acid to btm & got circ out csg. Drop'd
SV & press'd tbg to 7000#, ok. Retrieved SV & SI for night.

DEC 08 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. Circ'd 300 BW down csg; no return thru
tbg. Pmp'd 4 B/M @ 1000#. Pmp'd 3 B/M @ 2000# down tbg;
no return out csg. MI&RU OWP & ran base temp log to TD;
BHT 164 deg. 1st perf'g run from PBTD 9380-9134 (44 holes),
2nd run 9132-8990 (34 holes) & 3rd run 8988-8912 (39 holes)
for a total of 117 holes from 9380-8912. No press incr on
any run; press remained @ 0.

DEC 09 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SIP 120 psi. MI&RU Hal. Pmp'd 10 BW
foll'd by acid. Pmp'd 302 bbls 15% HCl @ perfs from 9380-
8912 (117 holes) per prog. RA sd did not get added to
acid. Max press 6650 psi, avg press 5400. Max rate 12 B/M,
avg 9. Flushed tbg w/75 bbls clean prod wtr. Held 1000
psi on csg thruout trtmt. ISIP 1100 psi, 5 mins 800, 10
mins 680, 15 mins 600. RD&MO Hal. MI&RU OWP & ran base
temp & GR logs from pk to PBTD; showed no RA material in
acid. RD&MO OWP. Opened well to pit. WH press went from
250 psi to 0 psi immediately. Unibeads plug'd tbg. Backed
well down w/60 bbls diesel. SI for night.

DEC 10 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SIP 850#. Flwd well to pit; decr'd to 0 in 15 mins. Removed 10,000# tree & released pkr. Reversed circ'd to kill well. Pulled prod equip. RIH w/perf jt, +45 SN 7 2-7/8 tbg. Drop'd SV & press tested tbg to 2500 psi, ok. SI overnight. RIH w/fish'g tool on sdline & could not fish SV. MI&RU Sun & RIH w/fish'g tool on slick line; rec'd SV. RD&MO Sun. Pulled prod equip; SV was seat'g in Bkr on-off seal connector. RIH w/prod tbg. SI well.

DEC 13 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. 12/13 RIH w/prod tbg, seat nip & Bkr AC. Drop'd SV & press tested tbg to 2500 psi, ok. MI&RU Sun & RIH & fish'd SV. RIH w/150 3/4" rods & SI overnight. Note: Bkr tbg AC set @ 8851 & tbg landed w/15,000# tension.

DEC 14 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. Ran rods & pmp. Filled tbg & press tested to 500 psi, ok. Started pmp'g well to pit; 100% wtr. SI well. Tied in flwline, includ'g vent line from csg to flwline. Released rig 12/14 @ 2 p.m. Turned well over to prod.

DEC 15 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

DEC 16 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI. DEC 17 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. 12/17 Pmp'd 148 BO, 141 BW in 24 hrs. 12/18 Pmp'd 188 BO, 67 BW in 24 hrs. Bearing went out on electric motor overnight. PU SD for repairs.

DEC 20 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SD for repairs.

DEC 21 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SD for repairs.

DEC 22 1976

Shell-Brotherson 1-23B4
(Recomp)

DEC 27 1976

TD 9431. PB 9380. On various tests well prod:

Rept Date	Hrs	BO	BW	MCF Gas	Press
12/22	24	142	130	0	200
12/23	24	148	163	0	200
12/24	24	139	169	0	200
12/25	24	141	148	10	200
12/26	24	144	158	10	200

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24 hr test well prod 343 BO, 153 BW, 0 MCF Gas w/200 psi. DEC 28 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. (Correction to 12/28 report-should have read 144 BO, 153 BW.) On 24 hr test well prod 135 BO, 44 BW, 0 MCF Gas w/100 psi. DEC 28 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24 hr test well prod 144 BO, 118 BW, 0 MCF Gas w/200 psi. DEC 30 1976

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

Rept Date	Hrs	BO	BW	MCF Gas	Press
12/30:	24	128	148	0	200
12/31:	24	145	147	0	200
1/1:	24	150	164	0	200

JAN 03 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 138 BO, 0 BW, 0 MCF gas w/200 psi.

JAN 04 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test 1/3, prod 130 BO, 290 BW, 0 MCF gas w/200 psi. On 24-hr test 1/4, prod 132 BO, 150 BW, 0 MCF gas w/150 psi.

JAN 05 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 130 BO, 141 BW, 0 MCF gas w/150 psi.

JAN 06 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 130 BO, 141 BW, 0 MCF gas w/150 psi.

JAN 07 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

Rept Date	Hrs	BO	BW	MCF Gas	Press
1/7:	24	111	98	10	150
1/8:	24	107	86	10	100
1/9:	24	133	112	0	150

JAN 10 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 135 BO, 87 BW, 0 MCF gas w/150 psi.

JAN 11 1977

Shell-Brotherson 1-23B4
(Recomp) JAN 12 1977

TD 9431. PB 9380. On 24-hr test, prod 169 BO, 110 BW, 0 MCF gas w/150 psi.

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 127 BO, 84 BW, 0
MCF gas w/100 psi.
JAN 13 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 126 BO, 84 BW, 0
MCF gas w/50 psi.
JAN 14 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

<u>Rept Date</u>	<u>Hrs</u>	<u>BO</u>	<u>BW</u>	<u>MCF Gas</u>	<u>Press</u>
<u>1/14:</u>	24	131	85	0	50
<u>1/15:</u>	24	122	87	0	50
<u>1/16:</u>	24	142	87	0	50

JAN 17 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 121 BO, 83 BW, 0
MCF gas w/50 psi.
JAN 18 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 101 BO, 76 BW,
0 MCF gas w/50 psi.
JAN 19 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. No test this date due to PHARA
problems.
JAN 20 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test 1/19, prod 74 BO, 100 BW,
0 MCF gas w/50 psi. On 24-hr test 1/20, prod 82 BO, 43 BW,
0 MCF gas w/50 psi.
JAN 21 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

<u>Rept Date</u>	<u>Hrs</u>	<u>BO</u>	<u>BW</u>	<u>MCF Gas</u>	<u>Press</u>
<u>1/21:</u>	24	128	4	0	50
<u>1/22:</u>	24	73	134	0	50
<u>1/23:</u>	24	47	133	0	50

JAN 24 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 132 BO, 1 BW,
0 MCF gas w/50 psi.
JAN 25 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 68 BO, 155 BW,
0 MCF gas w/50 psi.
JAN 26 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 15 BO, 166 BW,
0 MCF gas w/50 psi.
JAN 27 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 42 BO, 130 BW,
0 MCF gas w/50 psi.
JAN 28 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

<u>Rept Date</u>	<u>Hrs</u>	<u>BO</u>	<u>BW</u>	<u>MCF Gas</u>	<u>Press</u>
<u>1/28:</u>	24	23	114	0	50
<u>1/29:</u>	24	30	112	0	50
<u>1/30:</u>	24	151	10	0	50

JAN 31 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 126 BO, 159 BW,
0 MCF gas w/50 psi.

FEB 01 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 9-hr test, prod 53 BO, 23 BW, 0
MCF gas w/50 psi.

FEB 02 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 03 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 04 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 07 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 08 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 09 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 10 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 11 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 14 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 15 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 16 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. SI.

FEB 17 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. SI.
(Recomp)

FEB 1 0 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. SI.
(Recomp)

FEB 2 2 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. SI.
(Recomp)

FEB 2 3 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. SI.
(Recomp)

FEB 2 4 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. SI.
(Recomp)

FEB 2 5 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On various tests, prod:
(Recomp)

<u>Rept Date</u>	<u>Hrs</u>	<u>BO</u>	<u>BW</u>	<u>MCF Gas</u>	<u>Press</u>
<u>2/25:</u>	17.7	97	15	0	50
<u>2/26:</u>	24	124	197	0	50
<u>2/27:</u>	SI				

FEB 2 8 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 14-hr test, prod 73 BO, 0 BW, 0
(Recomp) MCF gas w/50 psi. (Attempting to prod this Green River
test and sell the oil. We have experienced many problems
in trying to make this oil merchantable.)

MAR 0 1 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 14-hr test, prod 73 BO, 0 BW, 0
(Recomp) MCF gas w/50 psi.

MAR 0 2 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 1 BO, 0 BW, 0
(Recomp) MCF gas w/50 psi.

MAR 0 3 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 1 BO, 0 BW, 0 MCF
(Recomp) gas w/50 psi.

MAR 0 4 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 1 BO, 8 BW, 0
(Recomp) MCF gas w/50 psi.

MAR 0 7 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr tests 3/4, 3/5 & 3/6, prod
(Recomp) 1 BO, 0 BW, 0 MCF gas w/50 psi.

MAR 0 8 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 20 BO & 70 BW.
(Recomp)

MAR 09 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 22 BO & 70 BW.
(Recomp)

MAR 10 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 18 BO & 70 BW.
(Recomp)

MAR 11 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 14 BO & 158 BW.
(Recomp)

MAR 14 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 20 BO, 163 BW &
(Recomp) no gas.

MAR 15 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 20 BO & 190 BW.
(Recomp) (Report discontinued until further activity)

MAR 16 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. (RRD 3/16/77) MI&RU CWS #76.
(Recomp) Pmp'd 100 BW down backside before unseating pmp.
Unseated pmp & pmp'd 40 bbls diesel down tbg. Pulled
90 1", 97 7/8" & 183 3/4" rods & 1-1/4 pmp. RIH w/10'
gas anchor, 1-3/4 pmp, 183 3/4", 97 7/8" & 90 1" rods.
Seated pmp, spaced out & chk'd pmp. Put back on prod.
RD CWS 4/26/77.

APR 28 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 18 BO, 312 BW,
(Recomp) 0 MCF gas w/50 psi.

APR 29 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 32 BO, 323 BW,
(Recomp) 0 MCF gas w/50 psi.

MAY 02 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On various tests, prod:
(Recomp)

Rept Date	Hrs	BO	BW	MCF Gas	Press
4/29	24	19	276	0	50
4/30	5	11	60	0	50
5/1	24	19	262	0	50

MAY 03 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 19 BO, 200 BW,
(Recomp) 0 MCF gas w/50 psi.

MAY 04 1977

Shell-Brotherson 1-23B4 TD 9431. PB 9380. On 24-hr test, prod 18 BO, 183 BW,
(Recomp) 0 MCF gas w/50 psi.

MAY 05 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 18 BO, 162 BW,
0 MCF gas w/50 psi.

MAY 06 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 18 BO, 165 BW,
0 MCF gas w/50 psi.

MAY 09 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

Rept Date	Hrs	BO	BW	MCF Gas	Press
5/6	24	49	192	0	50
5/7	24	18	152	0	50
5/8	24	19	199	0	50

MAY 10 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 27 BO, 200 BW,
0 MCF gas w/50 psi.

MAY 11 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 66 BO, 195 BW,
0 MCF gas w/50 psi.

MAY 12 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 31 BO, 203 BW,
0 MCF gas w/50 psi.

MAY 13 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On 24-hr test, prod 69 BO, 171 BW,
0 MCF gas w/50 psi.

MAY 16 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. On various tests, prod:

Rept Date	Hrs	BO	BW	MCF Gas	Press
5/13	24	88	186	0	50
5/14	24	83	195	0	50
5/15	24	84	192	0	50

MAY 17 1977

Shell-Brotherson 1-23B4
(Recomp)

TD 9431. PB 9380. Before work, well avg'd 30 BO, 117
BW, 1 MCF gas/day. After work, well avg'd 27 BO, 200
BW, 0 MCF gas/day.
FINAL REPORT.

MAY 18 1977

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPLICATE*
 (Other instructions on reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
 Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input checked="" type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER Temporarily Abandoned		5. LEASE DESIGNATION AND SERIAL NO. Patented
2. NAME OF OPERATOR Shell Oil Company ATTN: C. A. Miller 6586 WCK.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P. O. Box 831 Houston, Tx. 77001		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' FNL & 2131' FEL Sec. 23		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO.		9. WELL NO. 1-23B4
15. ELEVATIONS (Show whether OF, ST, OR, etc.) KB 6303'		10. FIELD AND POOL, OR WILDCAT No. Uinta Basin
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA SW/4 NE/4 Sec. 23 T2S R4W
17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*		12. COUNTY OR PARISH Duchesne
18. I hereby certify that the foregoing is true and correct		13. STATE Utah

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

☐
☐
☐
☐
☐

PULL OR ALTER CASING

☐
☐
☐
☐
☐

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

☐
☐
☐
☐
☐

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

Temporarily Abandoned

☐
☐
☐
☐
☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Well is temporarily abandoned and being held for possible use as a salt water disposal well.

18. I hereby certify that the foregoing is true and correct

SIGNED



TITLE

Div. Oper. Engr.

DATE

9/13/83

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

MONTHLY OIL AND GAS PRODUCTION REPORT

Operator name and address:

UTEX OIL CO.
% SHELL WESTERN E&P INC.D. San Juan
NIOB

PO BOX 576

HOUSTON

TX

77001

ATTN: P.T. KENT, OIL ACCT.

Operator name
change

Utah Account No. N0840

Report Period (Month/Year) 8 / 84

Amended Report ☐

Well Name	Entity	Location	Producing Zone	Days Oper	Production Volume Oil (BBL)	Gas (MSCF)	Water (BBL)
MILES 1-35A4							
4301330029	01965	01S 04W 35	WSTC	22	1677	1802	5722
SHELL O. FEE 1-23B4							
4301330038	01970	02S 04W 23	GR-WS	TA	0	0	0
BROTHERSON 2-2B4							
4301330855	08420	02S 04W 2	WSTC	31	10958	13758	509
BURTON 1-15B5							
4301330128	08421	02S 05W 15	WSTC	31	372	0	5854
BROTHERSON 1-23B4R							
4301330483	08423	02S 04W 23	WSTC	27	2399	0	10422
BLUFF 33-4							
4303715866	08425	40S 23E 4	PRDX	SHUT IN 1958	0	0	0
U.S. CHURCH 2-27B5							
4301330340	99996	02S 05W 27	UNTA	SHUT IN	0	0	0
TOTAL					15406	15560	22507

Do not put 99996 on Production Report
only temporary A-Entity for NWL should
not have printed

Comments (attach separate sheet if necessary)

I have reviewed this report and certify the information to be accurate and complete.

Date 9-28-84

Authorized signature

Telephone

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPlicate
(Other instructions on
reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. Patented
2. NAME OF OPERATOR UTEX OIL COMPANY		6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A
3. ADDRESS OF OPERATOR 1245 E. Brickyard Rd., Ste. 600, Salt Lake City, Utah 84106		7. UNIT AGREEMENT NAME N/A
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 1,985' FNL & 2,131' FEL		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO. 43-013-30038		9. WELL NO. 1-23B4
15. ELEVATIONS (Show whether DF, RT, OR, etc.) 6,288' GL		10. FIELD AND POOL, OR WILDCAT Altamont/Bluebell
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 23, T2S, R4W
		12. COUNTY OR PARISH Duchesne
		13. STATE Utah

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

PULL OR ALTER CASING ☐

FRACTURE TREAT ☐

MULTIPLE COMPLETE ☐

SHOOT OR ACIDIZE ☐

ABANDON* ☐

REPAIR WELL ☐

CHANGE PLANS ☐

(Other) Change Status ☒

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐

REPAIRING WELL ☐

FRACTURE TREATMENT ☐

ALTERING CASING ☐

SHOOTING OR ACIDIZING ☐

ABANDONMENT* ☐

(Other) ☐

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Utex is requesting the status of this well be changed from
Temporarily Abandoned to a Water Disposal well as per the
attached application and procedure.

18. I hereby certify that the foregoing is true and correct

SIGNED

C. L. Bucher

TITLE

Production Engineer

DATE

3/18/86

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING
ROOM 4241 STATE OFFICE BUILDING
SALT LAKE CITY, UTAH 84114
(801) 533-5771
(RULE I-5 & RULE I-4)

FORM NO. DOGM-UIC-1
(Revised 1983)

IN THE MATTER OF THE APPLICATION OF
Utex Oil Company

CAUSE NO. _____

ADDRESS 1245 E. Brickyard Rd., Ste. 600
Salt Lake City, Utah ZIP 84106
INDIVIDUAL _____ PARTNERSHIP _____ CORPORATION XX
FOR ADMINISTRATIVE APPROVAL TO DISPOSE OR
INJECT FLUID INTO THE Brotherson 1-23B4 WELL
SEC. 23 TWP. 2S RANGE 4W
Duchesne COUNTY, UTAH

ENHANCED RECOVERY INJ. WELL	<input type="checkbox"/>
DISPOSAL WELL	<input type="checkbox"/>
LP GAS STORAGE	<input type="checkbox"/>
EXISTING WELL (RULE I-4)	<input type="checkbox"/>

Lease Name Brotherson	Well No. 1-23B4	Field Altamont/Bluebell	County Duchesne
Location of Enhanced Recovery Injection or Disposal Well _____ Sec. 23 Twp. 2S Rge. 4W			
New Well To Be Drilled Yes <input type="checkbox"/> No <input checked="" type="checkbox"/>	Old Well To Be Converted Yes <input type="checkbox"/> No <input type="checkbox"/>	Casing Test Yes <input type="checkbox"/> No <input checked="" type="checkbox"/> Date _____	
Depth-Base Lowest Known Fresh Water Within 1/2 Mile 550'	Does Injection Zone Contain Oil-Gas-Fresh Water Within 1/2 Mile YES <input type="checkbox"/> NO <input checked="" type="checkbox"/>		State What
Location of Injection Source(s) Uinta Basin	Geologic Name(s) and Depth of Source(s) 6,000' - 16,000' Green River - Wasatch		
Geologic Name of Injection Zone Uintah, Upper Green River	Depth of Injection Interval 4,778' to 5,702'		
a. Top of the Perforated Interval: 4,778'	b. Base of Fresh Water: 550'	c. Intervening Thickness (a minus b) 4,278'	
Is the intervening thickness sufficient to show fresh water will be protected without additional data? YES NO Possibly, will run Bond Log			
Lithology of Intervening Zones Sand and Shale Stringers			
Injection Rates and Pressures Maximum _____ 4,500 B/D _____ 2,500 PSI			
The Names and Addresses of Those to Whom Notice of Application Should be Sent. Lake Fork Ranch & Cattle P.O. Box 48 Mountain Home, Utah 84051			

C. L. Bucher Engineer
Name and Title of Representative of Company

Date: March 19, 1986

WITNESS My hand and official seal:

My Commission Expires:

August 9, 1988

Margo S. Hattle
Notary Public

Residing at: Salt Lake City, Utah

INSTRUCTIONS

1. Attach qualitative and quantitative analysis of representative sample of water to be injected and a qualitative and quantitative analysis of the injection formation of water.
2. Attach plat showing subject well and all known oil and gas wells, abandoned, drilling and dry holes within one-half mile, together and with the name of the operator(s) and surface owner(s).
3. Attach Drillers Log (Form DOGM-UIC-2). (Appropriate Surety must be on file with Conservation Division or appropriate government agencies.)
4. Attach Electric or Radioactivity Log of Subject well (if released).
5. Attach schematic drawing of the well. (See Rule I-5(b)(3)).
6. If the application is for a NEW well the original and two (2) copies of the application and two (2) complete sets of attachments shall be mailed to the Division. For EXISTING well applications (Rule I-4) only ONE copy of the application and ONE complete set of attachments are required to be mailed to the Division.
7. The Division is required to send notice of application to the surface owner of the land within one-half mile of the injection well and to each operator of a producing leasehold within one-half mile of the injection well. List all required names and addresses in the appropriate space provided on the front of this form.
8. Notice that an application has been filed shall be published by the Division in a newspaper of general circulation in the county of publication before the application is approved. The notice shall include the name and address of applicant, location of proposed injection or disposal well, injection zone, injection pressure and volume. If no written objection is received within 15 days from date of publication the application may be approved administratively.
9. Form DOGM-UIC-3b must be filed by January 31st each year for all injection or disposal wells.
10. Approval of this application, if granted, is valid only as long as there is no substantial change in the operations set forth in the application. A substantial operation change requires the approval of a new application.
11. For enhanced recovery projects, information required by Rule I-4 which is common to more than one well, need be reported only once on the application.

CASING AND TUBING DATA

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
Surface	9-5/8"	2,450'	760	Surface	Visually
Intermediate	7"	9,905'	525	5,460'	Bond Log
Production	5"	9,489' - 11,232'	180	-	-
Tubing			Name - Type - Depth of Tubing Packer		
Total Depth 11,232'	Geologic Name - Inj. Zone Uinta	Depth - Top of Inj. Interval 4,778'	Depth - Base of Inj. Interval 5,702'		

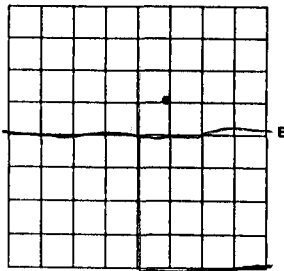
PLEASE TYPE OR USE BLACK INK ONLY

(To be filed within 30 days after drilling is completed)

DEPARTMENT OF NATURAL RESOURCES AND ENERGY

API NO. 43-013-30038

640 Acres
N



Locate Well Correctly
and Outline Lease

DIVISION OF OIL, GAS, AND MINING
Room 4241 State Office Building
Salt Lake City, Utah 84114

COUNTY Duchesne SEC. 23 TWP. 2S RGE. 4W

COMPANY OPERATING Utex Oil Company

OFFICE ADDRESS 1245 E. Brickyard Rd., Ste. 600

TOWN Salt Lake City STATE Utah ZIP 84106

FARM NAME Brotherson WELL NO. 1-23B4

DRILLING STARTED May 19 70 DRILLING FINISHED Aug 19 80

DATE OF FIRST PRODUCTION 1/29/71 COMPLETED 1/29/71

WELL LOCATED 1/4 SW 1/4 NE 1/4

3295 FT. FROM SL OF 1/4 SEC. & 3149 FT. FROM WL OF 1/4 SEC.

ELEVATION DERRICK FLOOR _____ GROUND 6,288'

TYPE COMPLETION

Single Zone _____

Multiple Zone _____

Comingled _____

LOCATION EXCEPTION

OIL OR GAS ZONES

Name	From	To	Name	From	To
Duchesne River	0	540			
Uintah	540	4,625	Wasatch	10,648	TD
Upper Green River	4,625	8,932			
Lower Green River	8,932	10,648			

CASING & CEMENT

Casing Set				Csg. Test	Cement		
Size	Wgt.	Grade	Feet	Psi	Sax	Fillup	Top
13-3/8"		K-55	248'				Surface
9-5/8"	36#	J-55	2,450'				Surface
7"	23#	S-95	9,905'		525	stringer to 5,460'	5,850'
5"	18#	N-80	9489'-11,232'		180		

TOTAL DEPTH 11,232'

PACKERS SET

DEPTH None Currently

NOTE: THIS FORM MUST ALSO BE ATTACHED WHEN FILING PLUGGING FORM DOGM-UIC-6

COMPLETION & TEST DATA BY PRODUCING FORMATION

FORMATION	1 Lower Green River	2 Wasatch	3 Lower Green River-Wasatch
SPACING & SPACING ORDER NO.			
CLASSIFICATION (DISPOSAL WELL, ENHANCED RECOVERY, LP GAS STORAGE)	Testing Oil Well	Testing Oil Well	Producing Oil Well
PERFORATED	9,922-10,066	11,188-11,220	10,050-10,972
INTERVALS		11,108-11,152	9,098-9,276
ACIDIZED?	17,500 gal.	15,000 gal	48,000 gal
		15,000 gal	35,000 gal
FRACTURE TREATED?			

INITIAL TEST DATA

(Over for additional data)

Date	9/13/70	11/19/70	1/29/71	1/12/71
Oil, bbl./day	104	220	185	0
Oil Gravity				
Gas, Cu. Ft./day				
Gas-Oil Ratio Cu. Ft./Bbl.	Not recorded	285,000	200,000	0
Water-Bbl./day	55	0	31	0
Pumping or Flowing	Swabbing	Flowing	Flowing	0
CHOKE SIZE	Full	1"	18/64"	0
FLOW TUBING PRESSURE	N/A	160#	250	0

A record of the formations drilled through, and pertinent remarks are presented on the reverse.
(use reverse side)

Telephone 484-2262

C. L. Bucher Engineer
Name and title of representative of company

Date: 3-19-86

WORKOVER PROCEDURE

BROTHERSON 1-23B4

WELL DATA

Elevations: 6,303' KB; 6,288' GL

Depths: TD 11,232'; PBD 9,398'

Casing: 13-3/8", K-55 @ 248'
Cemented to surface
9-5/8", 36#, J-55, STC @ 2,450'
Cemented to surface
7", 23#, 2-95, STC @ 9,905
Cemented with 525 sx
5", 18#, N-80, FJ @ 9,489' - 11,232'
Cemented with 180 sx

Tubing: None in hole

Perforations: 8,912' - 9,380' 134 shots currently open
7,263' - 8,680' 98 shots previously squeezed

PURPOSE

The purpose of this workover is to convert the 1-23B4, a shut-in well, to a water disposal well.

PROCEDURE

1. Open well, bleed off any accumulated pressure.
2. Move in, rig up service unit. Pick up 7,300'± tubing. Pick up mill, round trip to 7,300'±. Pick up retainer, run in hole, set at 7,200'. Run in hole with tubing, sting into retainer.
3. Pump 200 cubic feet of lite cement. Unsting from retainer, dump 5 sx on top of retainer. Pick up 10 stands, reverse circulate. Wait on cement overnight. Run in hole, tag cement. Pressure test casing to 2,000#. Pull out of hole.
4. Run in hole with squeeze gun, perforate 4 shots at 4,200'. Pull out of hole with wireline. Run in hole with packer on tubing. Open valve between 7" and 9-5/8". Establish rate down tubing. If no rate can be achieved, pump down 9-5/8" - 7" annulus, try to establish rate. If no rate at all is established, go to step #7.

5. If rate is established down tubing:
 - a. Pull out of hole with packer.
 - b. Run in hole with cement retainer, set @ 4,020'.
 - c. Run in hole with tubing, sting into retainer.
 - d. Pump 241 cubic feet Class G or H cement down tubing. Displace with 26 barrels water and water to clear surface lines (400' in 7" open hole annulus at 25% excess; 60' cement in casing).
 - e. Unsting from cement retainer, reverse circulate to place clear tubing. Pull out of hole. Shut-in well with 1,000#. Wait on cement overnight.
 - f. Run in hole, sting into retainer, pressure test. If there is no pressure test, repeat squeeze.
6. If rate is established down backside:
 - a. Pull out of hole with packer.
 - b. Pump 241 cubic feet Class G or H cement down backside. Displace with 216 barrels water and water to clean out surface lines.
 - c. Shut well in overnight. Wait on cement.
 - d. Pressure test casing to 2,000#.
 - e. Run in hole with bit, trip to PBTD.
7. If no rate can be established with packer. Pull out of hole with tubing. Shoot 4 additional squeeze perforations @ 3,800'. Run in hole with packer, set at 3,820'. Establish rate down tubing. Pull out of hole with packer.
8. Run in hole with retainer and set at 4,020'. Run in hole with tubing, sting into retainer. Pump 241 cubic feet Class G or H down tubing and displace with 50 barrels of water and water to displace surface lines. Monitor backside for how much cement is pumped. (400' of cement on backside, 25% excess; 60 feet in casing.) Unsting from retainer. Spot 11 cubic feet cement on top of retainer (50 feet). Pull up 10 stands, reverse circulate to clear tubing. Pull out of hole. Wait on cement overnight.
9. Run in hole with bit, tag cement, pressure test to 3,000#. Drill out cement and retainer, trip to PBTD. Pressure test to 3,000#.
10. Pull out of hole. Lay down bit. Run in hole, log well from 5,500' to surface with GR-CBL-CCL-VDL under 3,000# pressure.
11. If there is a minimum of 200' of good cement, proceed with work.

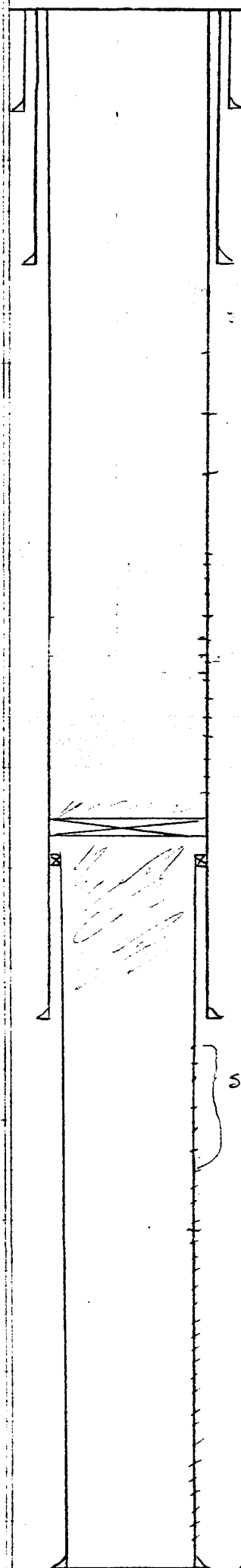
12. Run in hole with casing gun. Perforate with 4" casing gun from Compensated Formation Density dated 7/15/70, 4 shots per foot:

5,658'	- 5,702'	44'
5,060'	- 5,070'	10'
4,986'	- 4,992'	6'
4,976'	- 4,980'	4'
4,802'	- 4,810'	8'
4,778'	- 4,786'	8'

76' Net
304 shots

13. Pick up packer, run in hole, set @ 4,100'. Swab well and send to lab for complete water analysis.
14. Inject into the well at 1 BPM, 2 BPM, 5 BPM and 10 BPM, if possible. Note pressures at each rate. Pull out of hole with tubing and packer. Lay down tubing and packer.
15. Pick up internally coated Model D with flapper valve and run in hole, set at 4,100'.
16. Pick up internally coated 2-7/8", EUE, N-80, 6.5# tubing, run in hole, sting into packer.
17. Nipple down B.O.P. Nipple up wellhead. Rig down service unit.

BROTHERSON 1-23B4



248' 13 3/8" K-55 cmt'd to surface

2450' 9 5/8", 36#, J-55, STC cmt'd to surface

5460' ABSOLUTE TOP OF CEMENT

5850' TOP OF ISOLATING CEMENT (CBL 8-20-70)

7263'

8680' 93 shots SQ'D w/ 700 SX

8912'

134 shots open perts

9380'

9398'

PBTD, 20 SX ON TOP RETAINER

9431'

CEMENT RETAINER (80 SX BELOW RETAINER)

9489'

TOP OF 5"

9905'

7", 23#, J-95, STC

SQ'D

cmt'd w/ 525 SX

PERFS BELOW PBTD

9922' - 10066', 272 shots SQ'D w/ 400 SX

10050' - 11220', 914 shots

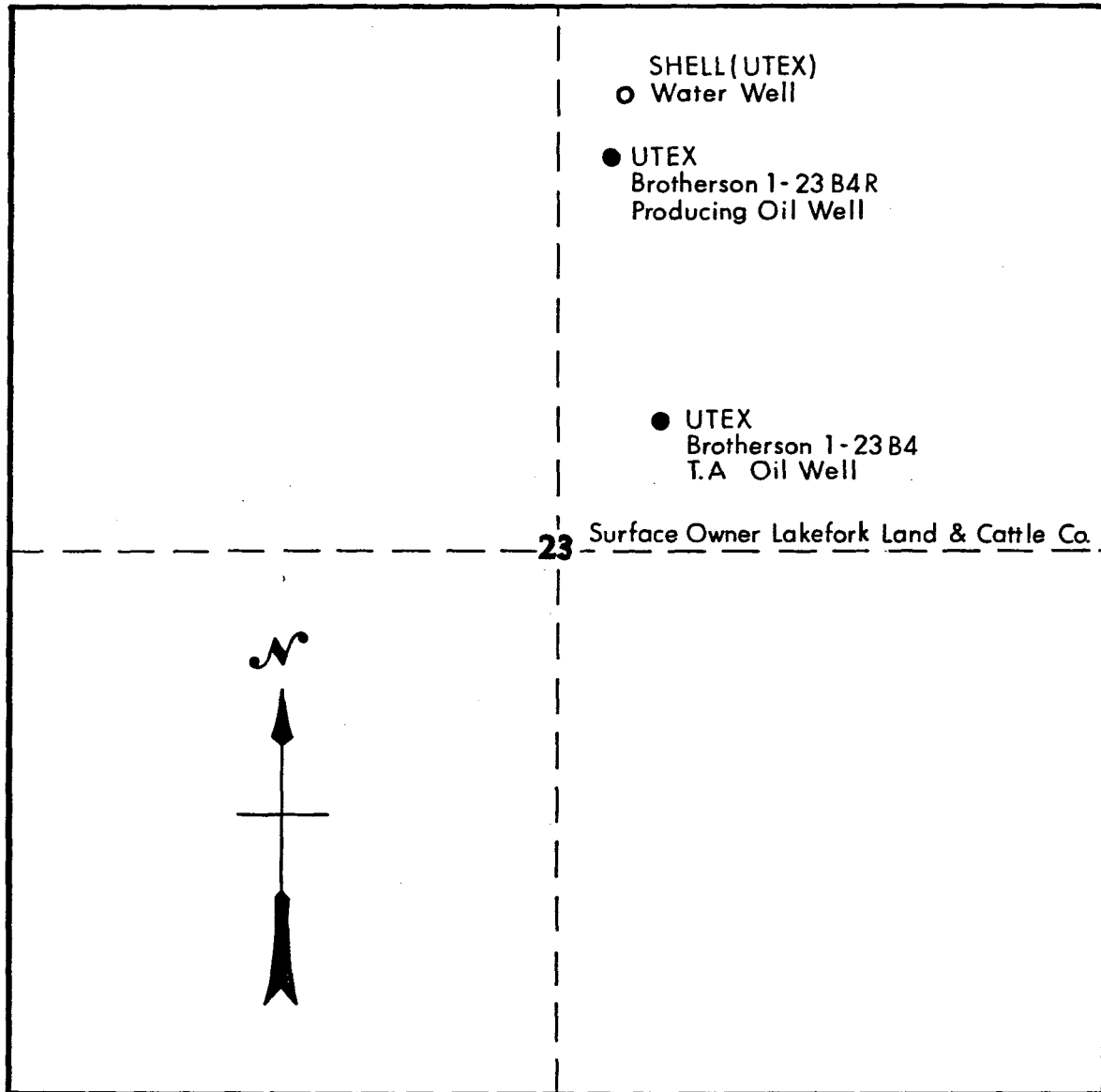
11232'

5", 18#, N-80 FJ

cmt'd w/ 180 SX

3/14/86
CLB

SECTION 23, R 2 S, T 4 W.

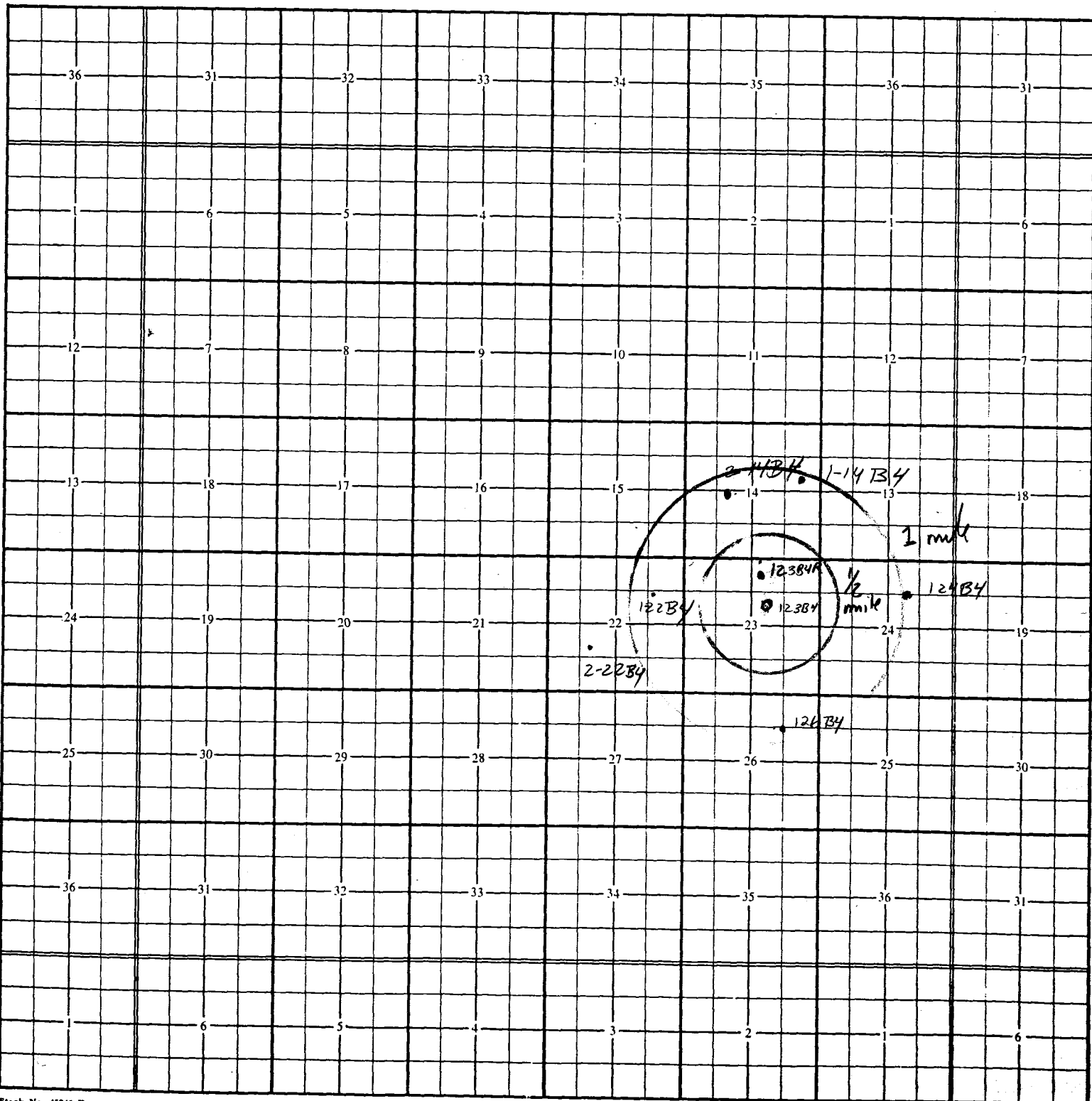


UTEX OIL COMPANY

TOWNSHIP PLAT

Owner Utex Oil Brotherson 1-23B4 Date 3/26/86

Township 25 Range 4W County Duchesne





STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 1, 1986

Utex Oil Company
Suite 600
1245 East Brickyard Road
Salt Lake City, Utah 84106-2503

ATTN: Catie L. Bucher

Dear Ms. Bucher:

RE: Disposal Well Application - Brotherson 1-23B4, Section 23,
Township 2 South, Range 4 West, Duchesne County, Utah

In regards to review of the above referenced disposal well application. Drilling data from the Brotherson 1-23B4 R producing oil well, which is within the 1/2 mile area of review indicates the following: 9 5/8" casing was run to 6280' and cemented with 415 sacks of lite cement, followed by 290 sacks of Class H cement. An additional 350 sacks of Class H cement were then pumped between the 13 3/8" and the 9 5/8" casing. This Division would like to request if available a copy of a cement bond log or additional cement data for this well which proves that this cement interval will effectively confine injected fluid and protect fresh water zones.

It is further requested that a step rate pressure test be conducted or appropriate fracture data be supplied in order to approve a maximum injection pressure of 2500 psi.

If you require additional information please contact me at (801) 538-5340.

Sincerely,

Daniel J. Jarvis
UIC Geologist

mfp
0035U-3

Utex Oil company - Brotherson 1-2334
sec 23, T2S, R4W Duchesne County Utah.
Review of Application to convert existing T.A.
Well. to a SWD well.

(1) Plat showing Ownership + location
is satisfactory

(2) Logs of Electric + Cement Bond logs are
complete.

* (3) Casing Program + Workover operations
appear to be satisfactory to protect overlying
formations and aquifers. (However it is
recommended that an inspector witness cement
operations (see Attached sheet)

(4) Fluid Analysis of water to be injected from
Utex oil Wells, have been enclosed.

* (5) A sample ^{Analysis} of water from formation to be
injected into will be sent after collection
during workover operations. - Swab hole for sample

* (6) MAX injection Pressure is 2500 psi
Step Rate Pressure test needed or appropriate ^{frac} pressure
Data from other wells.

(7) Appropriate geologic data was provided.

* (8) The Utex Oil Comm. Well 1-2334R is the
only Producing Well within 1/2 mile (see attached
sheet.)

- (8) cont. - 9 ⁵/₈ " casing on this well was run to 6,280' and 415 sks were pumped down the 9 ⁵/₈ followed by 290 sks. An additional 350 sks were pumped between 9 ⁵/₈ + 13 ³/₈. (There is no unit bond log for this well. - need log or additional cement data.)

* There is also a 550' water well within 1/2 mile and is owned by Uter. Uter states that quarterly they will analyze samples of this water for contamination. -

- (9) Surface owner of land is Lake Fork Ranch & cattle and an application has been sent to the owner.

- (10) The proposed injection zone is 4778' - 5702' which is lower Vinta or Upper Green River. approx. 4,500 bbls of water will be injected daily. The sand zone from 5056' - 5068' has a salinity of approx 15,000 ppm

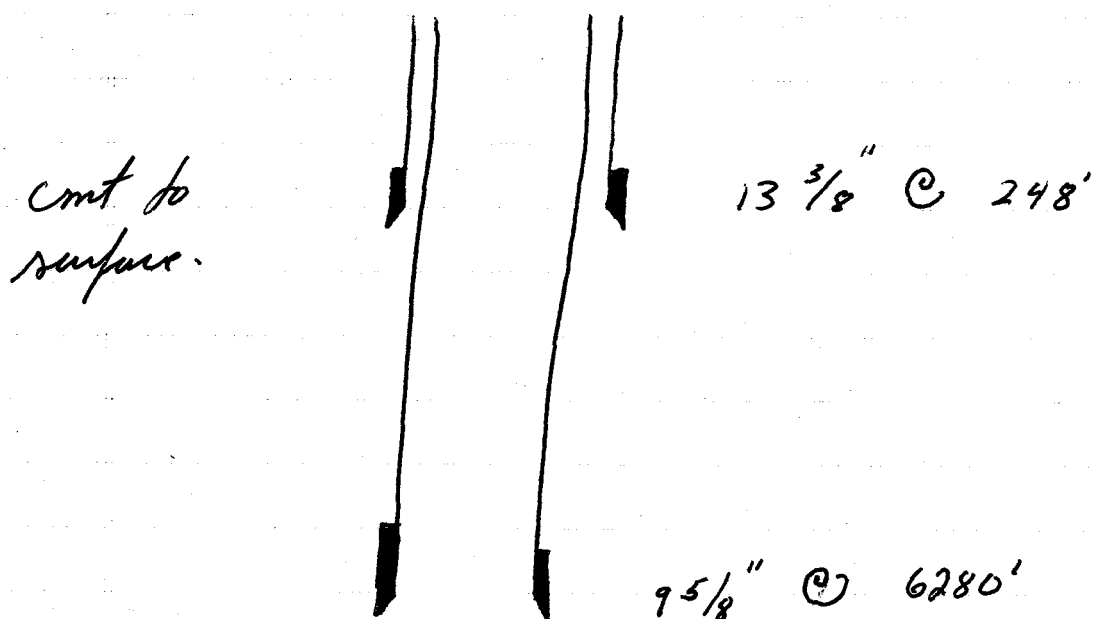
- (11) Fluid Analysis of ~~so~~ water to be injected have T.D.S. ranging from 3126 ppm → 132,532 with an average of approx 6,500 ppm

- (12) 924' injection zone - should request them to run an injection profile log.

Utex Oil Brotherson 1-23 B4R sec 23 T. 2S. R4W

Casing + cmt record.

13 ³ / ₈ "	248'	900 sks
9 ⁵ / ₈ "	6,280'	1055 sks
7"	10,690'	150 sks.



415 sks pumped on 9 ⁵/₈, followed by 290 sks.

An additional 350 sks were pumped between 9 ⁵/₈ + 13 ³/₈.

- However we don't know if cmt is at to surface. or where top is.
There is no CBL



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

April 1, 1986

RECEIVED

Utex Oil Company
Suite 600
1245 East Brickyard Road
Salt Lake City, Utah 84106-2503

APR 3 1986

ATTN: Catie L. Bucher

Dear Ms. Bucher:

RE: Disposal Well Application - Brotherson 1-23B4, Section 23,
Township 2 South, Range 4 West, Duchesne County, Utah

In regards to review of the above referenced disposal well application. Drilling data from the Brotherson 1-23B4 R producing oil well, which is within the 1/2 mile area of review indicates the following: 9 5/8" casing was run to 6280' and cemented with 415 sacks of lite cement, followed by 290 sacks of Class H cement. An additional 350 sacks of Class H cement were then pumped between the 13 3/8" and the 9 5/8" casing. This Division would like to request if available a copy of a cement bond log or additional cement data for this well which proves that this cement interval will effectively confine injected fluid and protect fresh water zones.

It is further requested that a step rate pressure test be conducted or appropriate fracture data be supplied in order to approve a maximum injection pressure of 2500 psi.

If you require additional information please contact me at (801) 538-5340.

Sincerely,

Daniel J. Jarvis
UIC Geologist

mfp
0035U-3

BROTHERSON 1-23 BAR 9 5/8" CEMENT JOB

* CEMENT VOLUMES

770	SX	LITE	@	1.97 ft ³ /sx	1516.9 ft ³
290	SX	H	@	1.15 ft ³ /sx	333.5 ft ³
TOTAL CEMENT PUMPED					<u>1850.4 ft³</u>

ANNULAR VOLUMES

ALL SETTINGS ON DRILLING REPORT KB,
KB 21', CASING DEPTHS CORRECTED TO GL
DEPTH 13 5/8" 248' KB, 227' GL
DEPTH 9 5/8" 6280' KB, 6259' GL

13 5/8" casing - 9 5/8" casing
= 3627 ft³/ft, 227'

82.3 ft³

12 1/4" hole - 10.625" coupling
147 couplings in open hole (± 1)
7 3/4" length - total length 94.93 ft

$$\begin{aligned}\text{ANNULAR AREA} &= \pi \left(\frac{12 1/4}{2} \right)^2 - \left(\frac{10.625}{2} \right)^2 \pi \\ &= 29.19 \text{ in}^2 \\ &= .2027 \text{ ft}^3/\text{ft} \times 94.93 \text{ ft} = 19.2 \text{ ft}^3\end{aligned}$$

12 1/4" hole - 9 5/8" casing

$$\text{TOTAL LENGTH} = 6259 - 227 - 94.9 = 5937.1'$$

$$\begin{aligned}\text{ANNULAR AREA} &= \pi \left(\frac{12 1/4}{2} \right)^2 - \pi \left(\frac{9 5/8}{2} \right)^2 \\ &= 45.10 \text{ in}^2 \\ &= .3131 \frac{\text{ft}^3}{\text{ft}} \times 5937.1 \text{ ft} = 1858.9 \text{ ft}^3 \\ \text{TOTAL ANNULAR VOLUME} &= \underline{\underline{1960.4 \text{ ft}^3}}\end{aligned}$$

* FROM DRILLING REPORT (ATTACHED), 415 SX LITE, 290 SX H,
355 CLASS H LITE

UTEX OIL COMPANY

SUITE 600
1245 EAST BRICKYARD ROAD
SALT LAKE CITY, UTAH 84106-2503

PHONE (801) 484-2262

RECEIVED
APR 17 1986

DIVISION OF
OIL, GAS & MINING

April 14, 1986

STATE OF UTAH
DIVISION OF OIL, GAS & MINING
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attention: Mr. Daniel J. Jarvis
UIC Geologist

RE: Brotherson 1-23B4

Dear Mr. Jarvis:

In answer to your letter of April 1, 1986, attached, we have no bond logs over the 9-5/8" casing in the Brotherson 1-23B4R. Currently, the interval is behind 7" casing and cannot be logged. A comparison of cement volumes pumped and annular volumes is attached. However, there are two strings of casing over the interval from 6,280' up. The 7" and 9-5/8" annulus will be monitored. If necessary, cement can be pumped into this annulus.

The step-rate pressure test is Item #14 on the Workover Procedure. I will affirm the importance of this test to the field.

If you require any further information, please contact me at the phone number listed above.

Sincerely,

UTEX OIL COMPANY

Catie Bucher

Catie L. Bucher
Production Engineer

CLB/jsw

Enclosures

CLB/002/023



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

May 6, 1986

Catie L. Bucher, Production Engineer
Utex Oil Company
Suite 600
1245 East Brickyard Road
Salt Lake City, Utah 84106-2503

Dear Ms. Bucher:

RE: Disposal Well Application, Brotherson 1-23B4, Township 2 South,
Range 4 West, Section 23, Duchesne County, Utah

I am recommending that public notice be given for conditional approval of the above referenced application.

This approval will stipulate the following additional requirements:

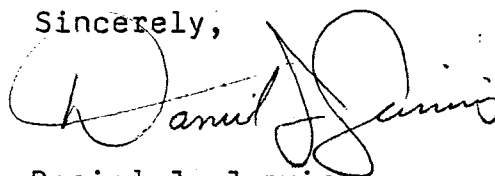
- 1) Applicant will take two samples of formation water by production swab tests, one from the subsurface interval 4778' - 5070'; and the other to be taken from the interval 5660' - 5702'. The samples are to be analyzed for total dissolved solids content to determine if an aquifer exemption is necessary. These test will also show the unlikely existence of producible hydrocarbons in the zones.
- 2) Applicant will add one additional step when conducting a step-rate test.
- 3) Applicant will run an injection profile log once disposal operations commence.

Page 2
Brotherson Application
May 6, 1986

- 4) Applicant will notify this office prior to all workover operations and tests to provide an opportunity, for a member of the staff to witness such operations.

If you have any questions concerning this action, please contact me at (801)538-5340.

Sincerely,

A handwritten signature in black ink, appearing to read "Daniel J. Jarvis". The signature is stylized with a large, circular loop at the beginning and a long, sweeping tail that extends to the right.

Daniel J. Jarvis
UIC Geologist

mfp
0035U-6

Publication was sent to the following:

Utah State Department of Health
Water Pollution Control
Attn: Loren Morton
4142 State Office Building
Salt Lake City, Utah 84114

U.S. Environmental Protection Agency
Suite 1300
Attn: Mike Strieby
999 18th Street
Denver Colorado 80202-2413

Bureau of Land Management
Consolidated Financial Center
324 South State Street
Salt Lake City Utah 84111-2303

Utex Oil Company
1245 East Brickyard Road
Suite 600
Salt Lake City, Utah 84106

Lake Fork Ranch and Cattle
PO Box 48
Mountain Home, Utah 84051

Uintah Basin Standard
Legal Advertising
Roosevelt, Utah 84066

Newspaper Agency
Legal Advertising
143 South Main - Mezzanine Floor
Salt Lake City, Utah 84110

Marilyn Poulson
May 12, 1986



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

May 12, 1986

Uintah Basin Standard
Legal Advertising
Roosevelt, Utah 84066

Gentlemen:

RE: Cause No. UIC-081

Enclosed is a Notice of Application of Administrative Approval before the Division of Oil, Gas and Mining, Department of Natural Resources, State of Utah.

It is requested that this notice be published ONCE ONLY, as soon as possible, but no later than the 21st day of May, 1986. In the event that said notice cannot be published by this date, please notify me immediately by calling 538-5340.

Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

Marjorie L. Anderson

for
Marjorie L. Anderson
Administrative Assistant

mfp

Enclosure



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

May 12, 1986

Newspaper Agency Corporation
Legal Advertising
143 South Main - Mezzanine Floor
Salt Lake City, Utah 84110

Gentlemen:

RE: Cause No. UIC-081

Enclosed is a Notice of Application of Administrative Approval before the Division of Oil, Gas and Mining, Department of Natural Resources, State of Utah.

It is requested that this notice be published ONCE ONLY, as soon as possible, but no later than the 21st day of May, 1986. In the event that said notice cannot be published by this date, please notify me immediately by calling 538-5340.

Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

Marlayne Roulson
for
Marjorie L. Anderson
Administrative Assistant

mfp

Enclosure

BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

---oo0oo---

IN THE MATTER OF THE APPLICATION : CAUSE NO. UIC-081
OF UTEX OIL COMPANY, FOR ADMINIS-
TRATIVE APPROVAL TO CONVERT THE :
BROTHERSON #1-23B4 WELL, LOCATED :
IN SECTION 23, TOWNSHIP 2 SOUTH, :
RANGE 4 WEST, U.S.M., DUCHESNE :
COUNTY, UTAH, TO A CLASS II SALT :
WATER DISPOSAL WELL

---oo0oo---

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED
MATTER.

Notice is hereby given that Utex Oil Company, 1245 E. Brickyard
Road, Suite 600, Salt Lake City, Utah 84106, has requested
administrative approval from the Division to convert the Brotherson
#1-23B4 well, located 1,985' FNL and 2,131' FEL (SWNE) in Section 23,
Township 2 South, Range 4 West, Duchesne County, Utah to a Class II
saltwater disposal well.

The proposed operating data for the well is as follows:

INJECTION INTERVAL: Lower Uinta - Upper Green River Formation
4,778' to 5,702'

MAXIMUM ESTIMATED SURFACE PRESSURE: 2500 psig

MAXIMUM ESTIMATED WATER INJECTION RATE: 4500 BWPD

Conditional approval of this application will be granted unless
objections are filed with the Division of Oil, Gas and Mining within
fifteen days after publication of this Notice. Objections, if any,
should be mailed to the Division of Oil, Gas and Mining, Attention:
UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350,
Salt Lake City, Utah 84180-1203.

DATED this 8th day of May, 1986.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING


MARJORIE L. ANDERSON
Administrative Assistant

Affidavit of Publication

RECEIVED
JUN 10 1986
ADM-358

STATE OF UTAH,
County of Salt Lake

SS.

DIVISION OF
OIL, GAS & MINING

...Cheryl Gierloff.....

Being first duly sworn, deposes and says that he/she is legal advertising clerk of THE SALT LAKE TRIBUNE, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah, and of the DESERET NEWS, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah.

That the legal notice of which a copy is attached hereto

...Cause No. VIC-081 - Application of UTEX Oil.....

...Company.....

was published in said newspaper on.....

...May 19, 1986.....

Cheryl Gierloff
Legal Advertising Clerk

BEFORE THE DIVISION OF
OIL, GAS AND MINING
DEPARTMENT OF
NATURAL RESOURCES
STATE OF UTAH
CAUSE NO. VIC-081

IN THE MATTER OF THE AP-
PLICATION OF UTEX OIL
COMPANY, FOR ADMINIS-
TRATIVE APPROVAL TO
CONVERT THE BROTHERS-
ON #1-2384 WELL, LOCATED IN
SECTION 32, TOWNSHIP 2
SOUTH, RANGE 14 WEST,
U.S.M. DUCHESNE COUNTY,
UTAH, TO A CLASS 1 SALT
WATER DISPOSAL WELL.
THE STATE OF UTAH, TO
ALL INTERESTED PARTIES IN
THE ABOVE ENTITLED MAT-
TER.

Notice is hereby given that
UTEX Oil Company, 1245 E.
Brickyard Road, Suite 600, Salt
Lake City, Utah 84106, has re-
quested administrative approval
from the Division to convert
the Brotherson #1-2384 well, lo-
cated 1000' SW 1/4 and 2/4, SEC.
(SWNE) 32, Section 23, Township
2 South, Range 14 West, Du-
chesne County, Utah, to a Class
1 saltwater disposal well.

The proposed operating data
for the well is as follows:

Injection Interval:
Lower Uinta-Upper Green Riv-
er Formation 4770' to 5702'
Maximum Estimated Surface
Pressure:
2500 psig
Maximum Estimated Water In-
jection Rate:
4500 BWPD

Conditional approval of this
application will be granted un-
less objections are filed with the
Division of Oil, Gas and Mining
within ten (10) days after publi-
cation of this Notice. Objections,
if any, should be mailed to the
Division of Oil, Gas and Mining,
Attention: UIC, Room 400, Maag-
er, 355 West North Temple, 3
Third Center, Suite 250, Salt
Lake City, Utah 84110-1203.

DATED this 8th day of May,
1986.

STATE OF UTAH
DIVISION OF OIL,
GAS AND MINING
Marilyn L. Anderson
Administrative Assistant
0-14

Subscribed and sworn to before me this 5th day of

June

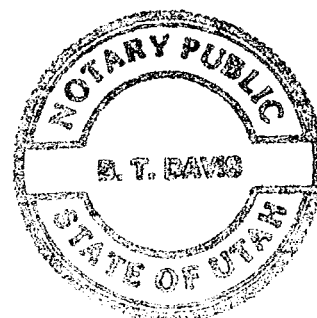
A.D. 19⁸⁶.....

B. J. Davis

Notary Public

My Commission Expires

March 1, 1988



Affidavit of Publication

RECEIVED
JUN 10 1986
ADM-358

STATE OF UTAH,
County of Salt Lake

SS.

DIVISION OF
OIL, GAS & MINING

BEFORE THE DIVISION OF
OIL, GAS AND MINING
DEPARTMENT OF
NATURAL RESOURCES
STATE OF UTAH
CAUSE NO. UIC-081
IN THE MATTER OF THE AP-
PLICATION OF UTEX OIL
COMPANY, FOR ADMINIS-
TRATIVE APPROVAL TO
CONVERT THE BROTHERSON
#1-2384 WELL, LOCATED IN
SECTION 23, TOWNSHIP 2
SOUTH, RANGE 4 WEST,
U.S.M. DUCHESNE COUNTY
UTAH, TO A CLASS II SALT
WATER DISPOSAL WELL.
THE STATE OF UTAH, TO
ALL INTERESTED PARTIES IN
THE ABOVE ENTITLED MAT-
TER.
Notice is hereby given that
Utex Oil Company, 1245 E.
Brickyard Road, Suite 600, Salt
Lake City, Utah 84106, has re-
quested administrative approv-
al from the Division to convert
the Brotherson #1-2384 Well, lo-
cated in Section 23, Township
2 South, Range 4 West, Du-
chesne County, Utah to a Class
II salt water disposal well.
The proposed disposal well is
for the well located in the
Lower, Upper and Green Riv-
er Formation 4,778 to 5,702
Maximum Estimated Surface
Pressure
2500 psi
Maximum Estimated Water In-
jection Rate
4500 BWPD
Conditional approval of this
application will be granted un-
less objections are filed with the
Division of Oil, Gas and Mining
within fifteen days after publi-
cation of this Notice. Objections,
if any, should be mailed to the
Division of Oil, Gas and Mining,
Attention: UIC Program Manag-
er, 350 West North Temple, 3
Triad Center, Suite 350, Salt
Lake City, Utah 84103.
DATED this 8th day of May,
1986.
STATE OF UTAH
DIVISION OF OIL,
GAS AND MINING
Marjorie L. Anderson
Administrative Assistant
0-14

Cheryl Gierloff

Being first duly sworn, deposes and says that he/she is legal advertising clerk of THE SALT LAKE TRIBUNE, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah, and of the DESERET NEWS, a daily newspaper printed in the English language with general circulation in Utah, and published in Salt Lake City, Salt Lake County, in the State of Utah.

That the legal notice of which a copy is attached hereto

Cause No. UIC-081 - Application of UTEX Oil

Company

was published in said newspaper on

May 19, 1986

Cheryl Gierloff
Legal Advertising Clerk

Subscribed and sworn to before me this 5th day of
June, A.D. 1986.

B. J. Hapner

Notary Public

My Commission Expires

March 1, 1988





STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 11, 1986

Utex Oil Company
1245 East Brickyard Road
Suite 600
Salt Lake City, Utah 84106

Gentlemen:

RE: Injection Well Approval - Cause No. UIC-081

Administrative approval is hereby granted to convert the following well to a Class II saltwater disposal well:

Brotherson #1-23B4
Section 23, Township 2 South, Range 4 West, U.S.M.
Duchesne County, Utah

This approval is conditional upon full compliance with the UIC rules and regulations adopted by the Board of Oil, Gas and Mining, construction and operation of the well as outlined in the application submitted and the letter from the Division dated May 6, 1986.

If you have any questions concerning this matter, please do not hesitate to call or write.

Best regards,

A handwritten signature in cursive script, reading "Dianne R. Nielson".

Dianne R. Nielson
Director

mfp
7627U

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

MIT IN TRIPLICATE
(Other instructions on
reverse side)

010909A

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER		5. LEASE DESIGNATION AND SERIAL NO.
2. NAME OF OPERATOR ANR Limited Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME
3. ADDRESS OF OPERATOR P. O. Box 749, Denver, Colorado 80201-0749		7. UNIT AGREEMENT NAME
4. LOCATION OF WELL (Report location clearly and in accordance with any requirements. See also space 17 below.) At surface See attached list		8. FARM OR LEASE NAME Brotherson
14. PERMIT NO. 43-013-30038		9. WELL NO. 1-2384
15. ELEVATIONS (Show whether OF, RT, OR, etc.)		10. FIELD AND POOL, OR WILDCAT
16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec 23 25 4w
17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)		12. COUNTY OR PARISH 13. STATE Nuckemus

RECEIVED
DEC 31 1986

DIVISION OF
OIL, GAS & MINING

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

☐
☐
☐
☐
☐

PULL OR ALTER CASING

☐
☐
☐
☐
☒

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other) - Change Operator

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

☐
☐
☐

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

☐
☐
☐
☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

ANR Limited has been elected successor Operator to Utex Oil Company on the oil wells described on the attached Exhibit "A".

18. I hereby certify that the foregoing is true and correct

SIGNED

Don K. Nelson

TITLE

Dist. Land Mgr.

DATE

12/24/86

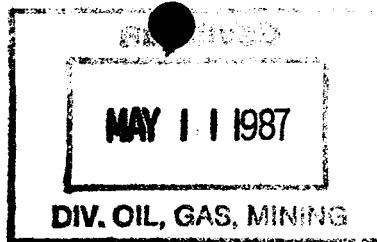
(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

ANR**ANR Limited Inc.**
a subsidiary of The Coastal Corporation

May 5, 1987

Division of Oil, Gas and Mining
3 Triad Center - Suite 350
Salt Lake City, Utah 84180-1203

Attention: Mr. Gil Hunt

Re: Application for Injection Well
Lake Fork #2-23B4 SWD
Section 23, T2S, R4W
Altamont Field
Duchesne County, Utah

Gentlemen:

Enclosed please find an application for an injection well (Form DOGM-UIC) to convert Lake Fork #2-23B4 into a disposal well for injection of produced lease water from ANR Ltd-operated wells in the Altamont Field.

Lake Fork #2-23B4 was formerly named Brotherson #1-23B4 which Shell Oil Company drilled and completed as a Green River producer (API No. 43-013-30038). Currently Brotherson #1-23B4 is temporarily abandoned and has been since April 1979 when Shell drilled and completed Brotherson #1-23B4R as a replacement well for Brotherson #1-23B4 in Section 23. Brotherson #1-23B4R was completed in the Wasatch. In order to avoid confusion we intend to refer to Brotherson #1-23B4 as Lake Fork #2-23B4 SWD. Changing the lease name and well number reflects a new surface owner and the second well in the section.

We propose to inject produced lease water into the Uintah formation through 258 feet of perforations over a gross interval from 2782' to 5831'. Attached is our SWD Conversion Procedure which will list each perforation. From the attached wellbore diagram please notice that top of cement on the 7" casing is at 5454' (see cement bond log). This cement top leaves 2672' of gross interval without cement isolation. We will circulate cement to surface to provide this isolation. The state will be provided with the cementing data, cement bond log and casing integrity tests prior to any injection.

Brotherson #1-23B4R is the only active or abandoned well within a 1/2-mile radius of Lake Fork #2-23B4. This well is located in Section 23 along with Lake Fork #2-23B4 and is operated by ANR Ltd. Reviewing the mechanical

Division of Oil, Gas and Mining
May 5, 1987
Page 2

condition of the wellbore in Brotherson #1-23B4R 9-5/8" surface casing was set at 6280' and cemented to surface by Shell. No conduit should exist that could enable fluids to migrate up or down since the casing is protected with cement across the proposed injection interval (2782-5831').

Accompanying this application are additional exhibits required under Rule 502 (Requirements for Class II Injection Wells). If any additional information is needed please call me at (303) 573-4488.

Sincerely,



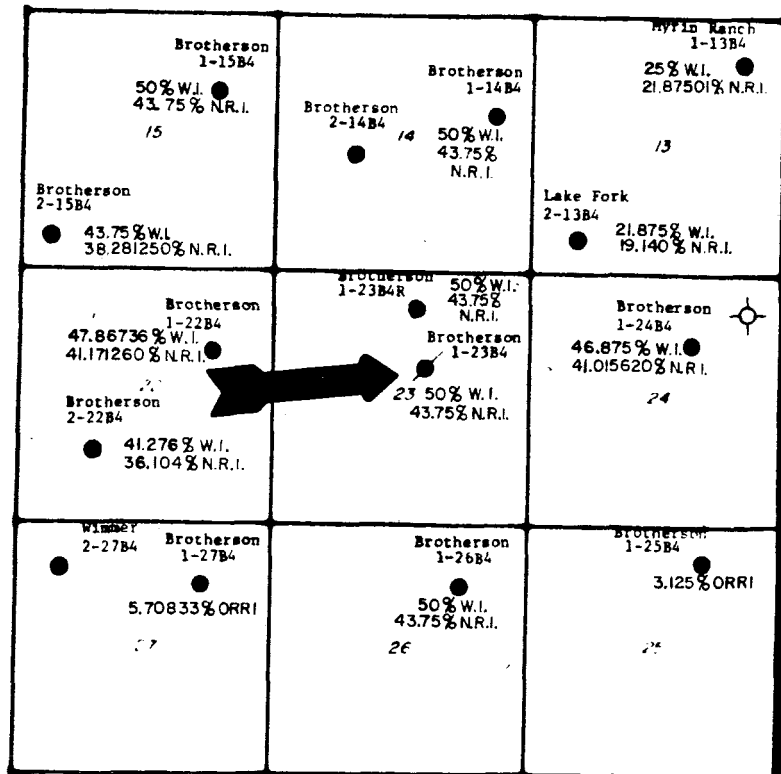
Rodney E. Cox
Production Engineer

REC:mem

Enclosures

cc: F. R. Midkiff/L. P. Streeb/Well File
Jon Nelsen

R 4 W

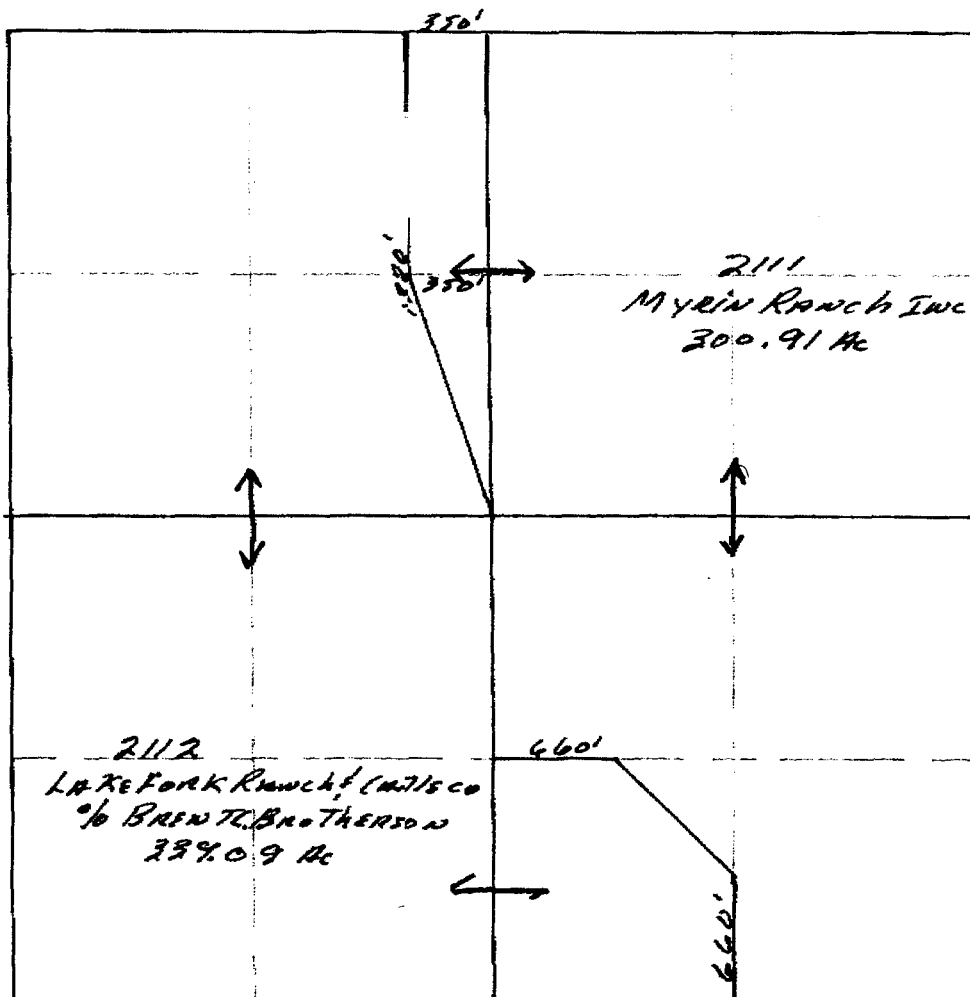


**T
2
S**

**Portion of
ALTAMONT FIELD**

Duchesne County, Utah

Brotherston #1-23B4



SECTION 12
 TOWNSHIP 25
 RANGE 4W
 U.S. BASE & MERIDIAN

2111 Myrin Ranch Inc
 55 RT Altamont 84001

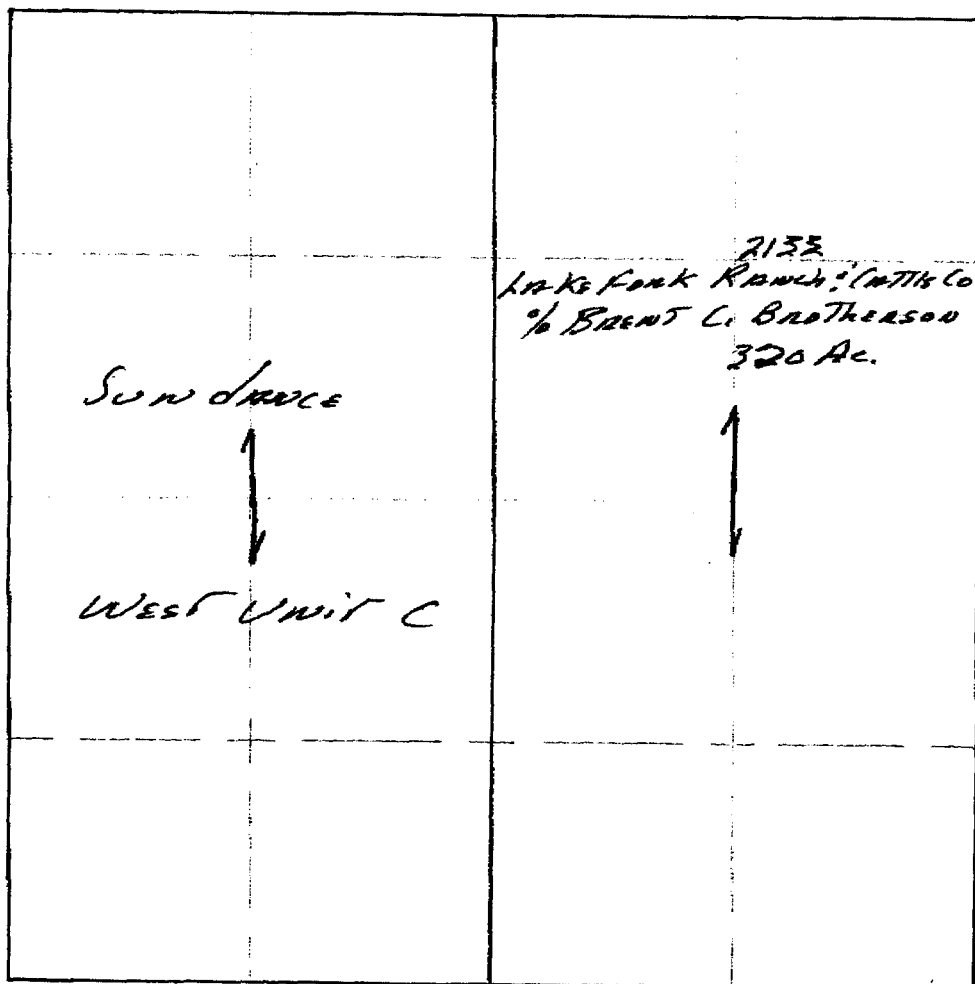


SECTION 14
TOWNSHIP 25
RANGE 4W
U.S. BASE & MERIDIAN

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



12.5. BASE & MERIDIAN



SECTION 22

TOWNSHIP 2S

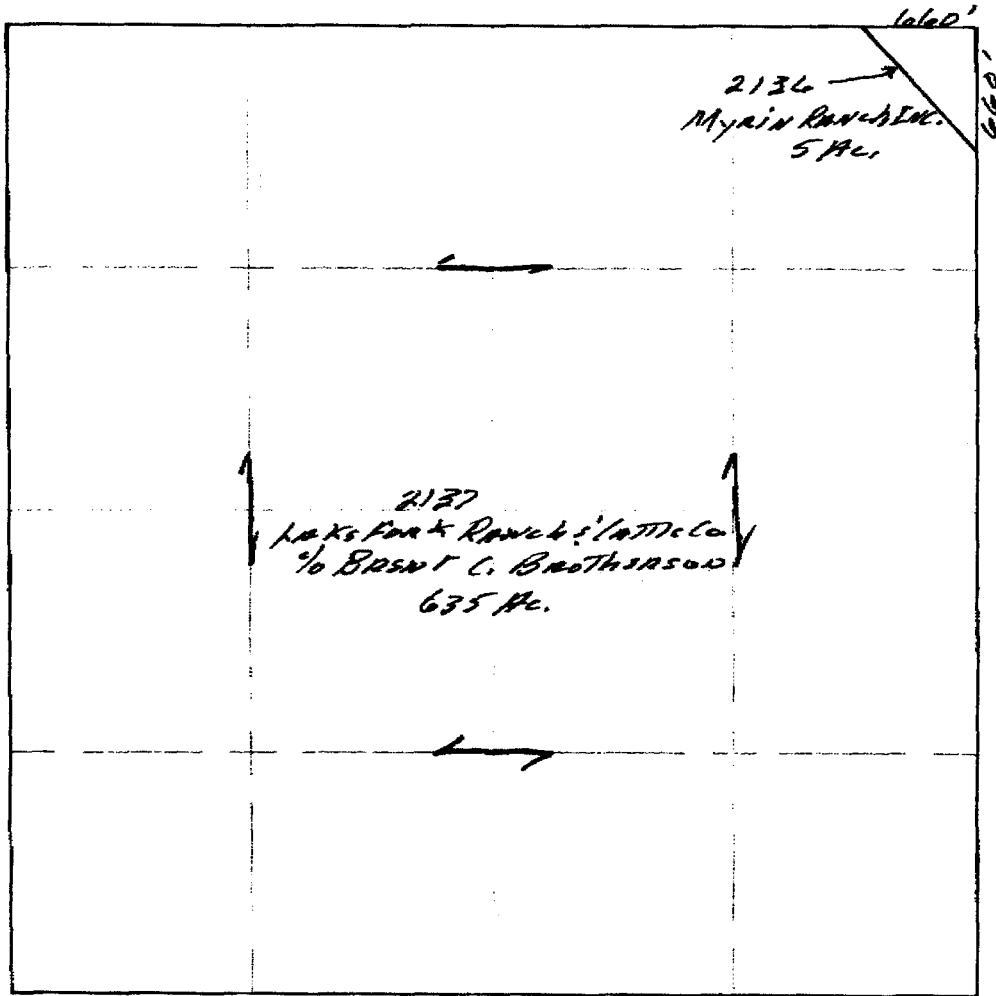
RANGE 4W

U.S. BASE & MERIDIAN



SECTION 22
TOWNSHIP 25
RANGE 7W
U.S. BASE & MERIDIAN

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



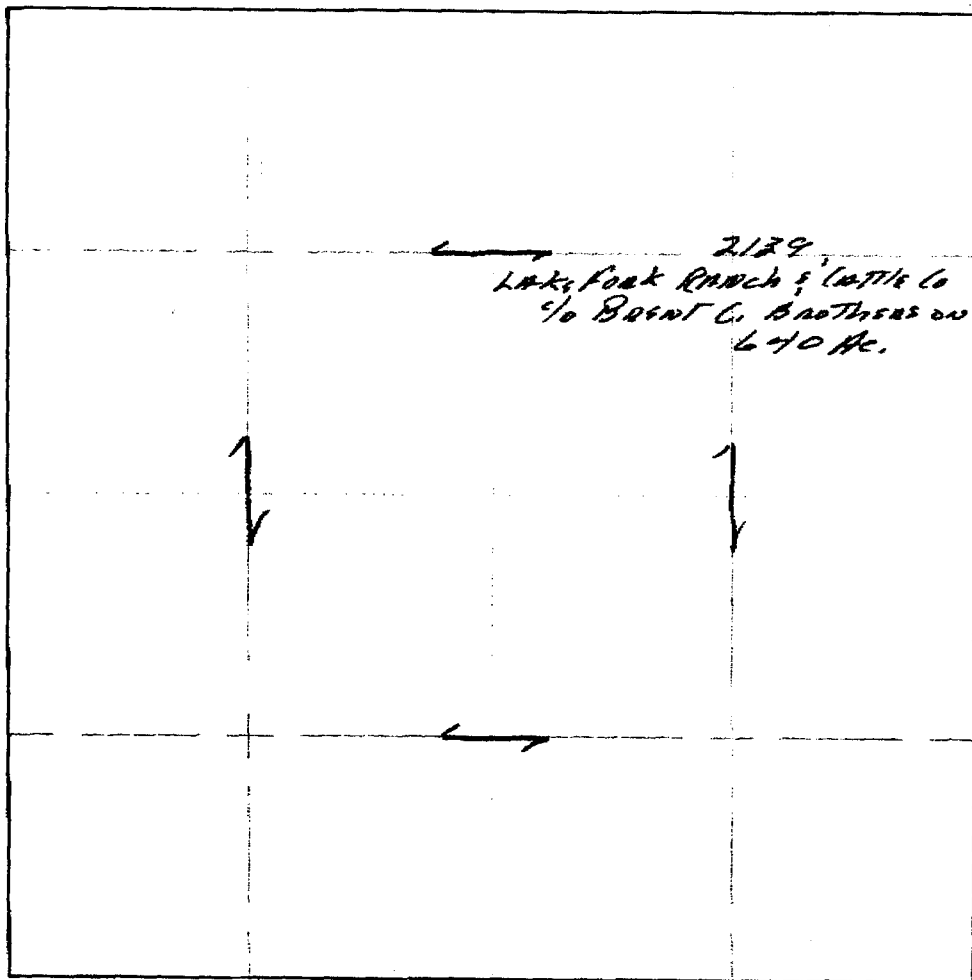
SECTION 24
 TOWNSHIP 25
 RANGE 4W
US BASE & MERIDIAN

2136 = Myrin Ranch Inc.
ST RT Altamont UT.
84001

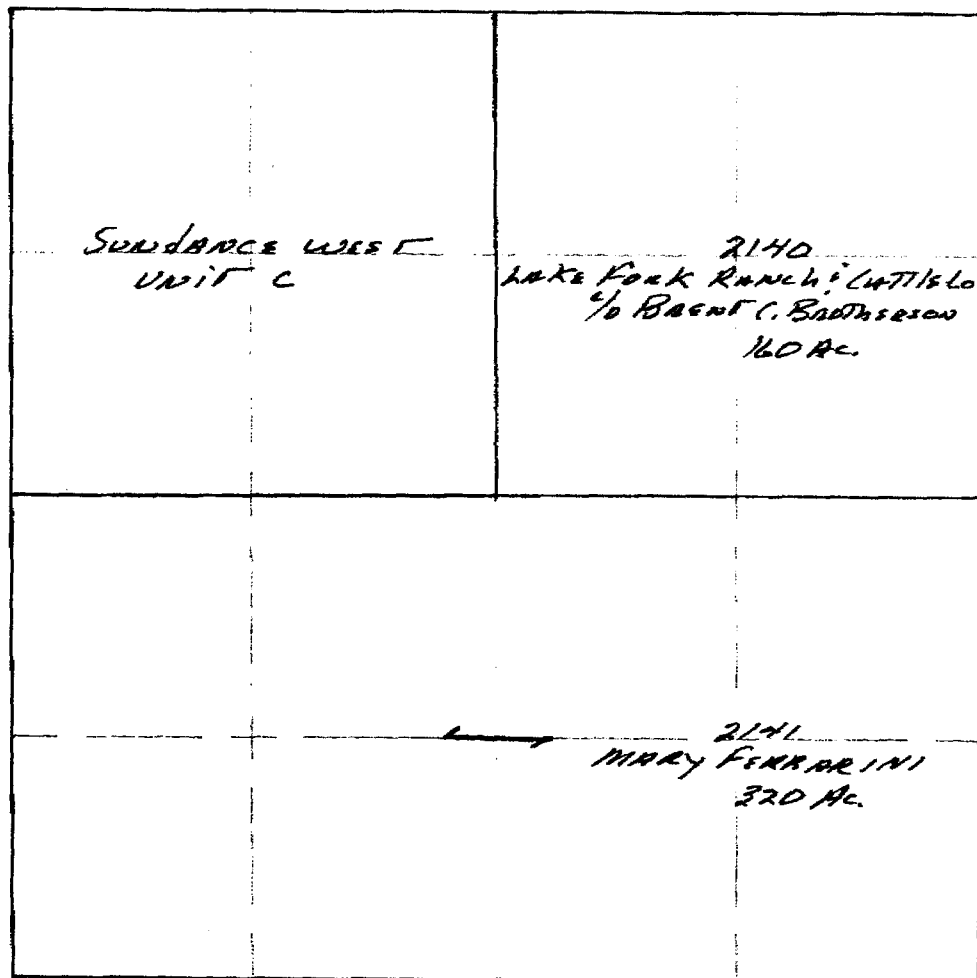


SECTION 25
TOWNSHIP 2S
RANGE 7W
12S BASE & MERIDIAN

This image shows a single sheet of white paper with horizontal blue or grey ruling lines. The lines are evenly spaced and run across the width of the page. There is no handwriting or other markings on the paper.



SECTION 26
TOWNSHIP 25
RANGE 4W
U.S. BASE & MERIDIAN



NORTH

1"=800'

SECTION 27TOWNSHIP 25RANGE 4W12S BASE & MERIDIAN2140 - 2139 - 2138 - 2137 - 2135 - 21332114 - 2113 - 2112 =LAKE FORK RANCH, CATTLE CO.1/0 BRENT C. BROTHMERSONST RT BOX 48MT. HOME UT. 840512141 - MARY FERRARINI112 GOLF CLUB DRIVELONGWOOD PL. 32250

IN THE MATTER OF THE APPLICATION OF ANR)
LTD, INC. CONVERTING LAKE FORK #2-23B4)
INTO AN INJECTION WELL FOR UNDERGROUND)
DISPOSAL OF WATER PRODUCED WITH OIL)
FROM WELLS IN THE GREATER ALTAMONT-)
BLUEBELL AREAS, DUCHESNE AND UINTAH)
COUNTIES, UTAH)

STATE OF COLORADO)
) SS.
COUNTY OF DENVER)

Rodney E Cox

My Commission Expires: 6-7-87

Sareen Hurst
Notary Public

EXHIBIT A

Utex Oil Company
445 E. 4500 South - Suite 220
Salt Lake City, Utah 84107

Attention: Mr. Steve Tipton

CSX Oil & Gas Corporation
410 17th Street - Suite 300
Denver, Colorado 80202

Attention: Mr. Gary Bell

ConVest Energy Corporation
2401 Fountain View Drive - Suite 700
Houston, Texas 77057

Attention: Mr. Ken Fagan

Lehndorff/LGB Minerals, Inc.
2501 Cedar Springs - Suite 340
Dallas, Texas 75201

Attention: Mr. Bob Bachman

G.I.D. Energy, Inc.
16801 Greenspoint Park Drive - Suite 110
Houston, TX 77060

Attention: Mr. D. A. Paape

Forcenergy, Inc.
640 Sunset Circle
Key Biscayne, Florida 33149

Attention: Mr. Stig Wennerstrom

Lake Fork Ranch & Cattle Company
Star Route, Box 48
Mt. Home, Utah 84051

Attention: Mr. Brent C. Brotherson

AFFIDAVIT OF PUBLICATION

County of Duchesne, }
STATE OF UTAH } ss.

I, Craig Ashby on oath, say that I am the PUBLISHER of the Uintah Basin Standard, a weekly newspaper of general circulation, published at Roosevelt, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue of such newspaper for one consecutive issues, and that the first publication was on the 21 day of May, 1986, and that the last publication of such notice was in the issue of such newspaper dated the 21 day of May, 1986.

Subscribed and sworn to before me this

30th day of May, 1986

Notary Public.

My commission expires MY COMMISSION EXPIRES MARCH 1, 1987, 1987

Publication fee, \$.....

PUBLIC NOTICE CAUSE NO. UIC-081

BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES, STATE OF UTAH.

IN THE MATTER OF THE APPLICATION OF UTEX OIL COMPANY, FOR ADMINISTRATIVE APPROVAL TO CONVERT THE BROTHERRSON No. 1-23B4 WELL, LOCATED IN SECTION 23, TOWNSHIP 2 SOUTH, RANGE 4 WEST, U.S.M., DUCHESNE COUNTY, UTAH, TO A CLASS II SALT WATER DISPOSAL WELL.

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that Utex Oil Company, 1245 E. Brickyard Road, Suite 600, Salt Lake City, Utah 84106, has requested administrative approval from the Division to convert the Brotherrson No. 1-23B4 well, located 1,985' FNL and 2,131' FEL (SWNE) in Section 23, Township 2 South, Range 4 West, Duchesne County, Utah to a Class II saltwater disposal well.

The proposed operating data for the well is as follows:

INJECTION INTERVAL:
Lower Uinta-Upper Green River Formation 4,778' to 5,702'

MAXIMUM ESTIMATED SURFACE PRESSURE: 2500 psig

MAXIMUM ESTIMATED WATER INJECTION RATE: 4500 BWPD

Conditional approval of this application will be granted unless objections are filed with the Division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

DATED this 8th day of May, 1986.

STATE OF UTAH
DIVISION OF OIL, GAS
AND MINING

Marjorie L. Anderson
Administrative Assistant
Published in the Uintah
Basin Standard May 21,
1986.

COASTAL OIL AND GAS
DUCHESNE COUNTY, UTAH
WATER ANALYSIS

Prepared By:

J. Wheeler

April 8, 1987

WST-87-S-0033



DOWELL SCHLUMBERGER DENVER TECHNOLOGY CENTER

P. O. Box 5818

Denver, Colorado

(303) 773-8800

DOWELL SCHLUMBERGER LABORATORY REPORT

FOR: Coastal Oil & Gas

WELL-TYPE: Injection Disposal

DEPTH: 2800-6800'

BHT: 110° F

TYPE OF SAMPLE: Water

LOCATION: Duchesne County, UT

April 8, 1987

WST-87-S-0033

Distribution: J. Borowicz, WST
J. D. McLennan, DTK
Lab File

I. INTRODUCTION:

A water sample was received at the D.S. Western Division Lab in the Denver Tech. Center for analysis. The scaling tendency and amount and type of solids was the requested information.

II. ANALYSIS:

A water analysis was done (Table I) so that scaling tendencies could be calculated.

An analysis on the amount and identity of the fines present in the water sample yielded less than 0.1% solids which were determined by X-Ray Fluorescence (Table II) to be mainly iron and magnesium. X-Ray Diffraction showed only amorphous material. The material looks like pieces of rust.

III. SCALING TENDENCY TEST PROCEDURE:

Calcium carbonate scaling tendencies are calculated with the Stiff-Davis equation: $SI = pH - pCa - pAlk - K$.

SI is the stability index for calcium carbonate. A positive index indicates deposition will occur, while a negative index indicates a corrosive condition but no deposition. An SI index of zero indicates the water is in equilibrium, neither corrosive or scale forming.

pH is the measured pH of the water. pH = 8.57

pCa is the negative logarithm of the calcium ion concentration.

pCa = 3.10

pAlk is the negative logarithm of the total alkalinity of the water.

pAlk = 1.60

K is a constant representing effects of temperature and total salt concentration on the solubility of calcium carbonate. K = 2.05

Calcium sulfate scaling tendencies are calculated using the predictive method derived by Skillman, McDonald, and Stiff:

$$S = 1000 \left(\sqrt{x^2 + 4k} - x \right)$$

S is the solubility of calcium sulfate.

K is the thermodynamic solubility product constant of calcium sulfate.
 $K=0.00033$

x is the excess common ion concentration (Ca or SO_4). $x = 0.0050$

The Stiff-Davis equation indicates that this water has a stability index of +1.82. A positive index indicates a tendency toward calcium carbonate deposition.

The calculated solubility of calcium sulfate in this water is 31.7 me/l. Analysis indicates the water contains 1.5 me/l, therefore deposition is not indicated.

IV. CONCLUSION:

According to calculations made from a water analysis, this water has a positive scaling index which indicates a tendency toward calcium carbonate deposition. The calculated solubility of Calcium Sulfate, however, is more than the actual concentration present, therefore depositon is not indicated.

The amount of fines present are less than 0.1% and consist of amorphous iron and magnesium.

TABLE I

BHT = 110°F pH = 8.57 Specific Gravity, 60°/60°F = 1.000			
DISSOLVED SOLIDS			
<u>Cations</u>	<u>mg/l</u>	<u>me/l</u>	<u>Ionic Strength</u>
Sodium, Na (calc.)	2259	99.4	0.049698
Calcium, Ca	30	1.5	0.001500
Magnesium, Mg	0	0.0	0.000000
<u>Anions</u>			
Chloride, Cl	2300	64.4	0.032200
Sulfate, SO ₄	550	11.5	0.011550
Carbonate, CO ₃	102	3.4	0.003366
Bicarbonate, HCO ₃	1350	21.6	0.010800
Total Dissolved Solids (calc.)	6591	--	0.109114
			Total Ionic Strength
Iron, Fe	10	--	

TABLE II

X-RAY FLUORESCENCE ELEMENTAL ANALYSIS

*Trace 0.5 - 1%
Magnesium Iron

* A higher concentration may have been detected if more sample had been present. Using such a small sample cuts down on the accuracy of the test.

PETROLITE

PETROLITE OIL FIELD CHEMICALS GROUP

369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417**WATER ANALYSIS REPORT**

COMPANY Coastal Oil & Gas ADDRESS Altamont, Ut. DATE 11-3-87
 SOURCE 2-23B4 (see remarks) DATE SAMPLED 11-3-87 ANALYSIS NO. 1
 Analysis Mg/L *Meq/L

1. pH	<u>10</u>			
2. H ₂ S (Qualitative)	<u>40 ppm</u>			
3. Specific Gravity	<u>1.030</u>			
4. Dissolved Solids		<u>67,585</u>		
5. Suspended Solids				
6. Phenolphthalein Alkalinity (CaCO ₃)				
7. Methyl Orange Alkalinity (CaCO ₃)		<u>27,500</u>		
8. Bicarbonate (HCO ₃)		HCO ₃ <u>33,550</u>	÷ 61	<u>550</u> HCO ₃
9. Chlorides (Cl)		Cl <u>12,975</u>	÷ 35.5	<u>365</u> Cl
10. Sulfates (SO ₄)		SO ₄ <u>75</u>	÷ 48	<u>2</u> SO ₄
11. Calcium (Ca)		Ca <u>638</u>	÷ 20	<u>32</u> Ca
12. Magnesium (Mg)		Mg <u>0</u>	÷ 12.2	<u>0</u> Mg
13. Total Hardness (CaCO ₃)		<u>50</u>		
14. Total Iron (Fe)		<u>.5</u>		
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

32	Ca	←	HCO ₃	550	Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
0	Mg	←	SO ₄	2	Ca (HCO ₃) ₂	81.04		32		2593
385	Na	←	Cl	365	Ca SO ₄	68.07				
					Ca Cl ₂	55.50				
					Mg (HCO ₃) ₂	73.17				
					Mg SO ₄	60.19				
					Mg Cl ₂	47.62				
					Na HCO ₃	84.00		515		43,512
					Na ₂ SO ₄	71.03		2		142
					Na Cl	58.46		365		21,333

Saturation Values Distilled Water 20°CCa CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/LREMARKS water sample drawn from between 5210' - 5831' (63' zones, 252 holes)Respectfully submitted
PETROLITE CORP.

PETROLITE

PETROLITE OIL FIELD CHEMICALS GROUP

369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417**WATER ANALYSIS REPORT**

COMPANY Coastal Oil & Gas ADDRESS Altamont DATE 11-3-87
 SOURCE 2-2384 (see remarks) DATE SAMPLED 11-3-87 ANALYSIS NO. 2
 Analysis Mg/L *Meq/L

1. pH	<u>10</u>			
2. H ₂ S (Qualitative)	<u>45ppm</u>			
3. Specific Gravity	<u>1.030</u>			
4. Dissolved Solids		<u>65,371</u>		
5. Suspended Solids				
6. Phenolphthalein Alkalinity (CaCO ₃)				
7. Methyl Orange Alkalinity (CaCO ₃)		<u>27,400</u>		
8. Bicarbonate (HCO ₃)		HCO ₃ <u>33,428</u> ÷ 61	<u>548</u>	HCO ₃
9. Chlorides (Cl)		Cl <u>11,690</u> ÷ 35.5	<u>330</u>	Cl
10. Sulfates (SO ₄)		SO ₄ <u>100</u> ÷ 48	<u>2</u>	SO ₄
11. Calcium (Ca)		Ca <u>648</u> ÷ 20	<u>32</u>	Ca
12. Magnesium (Mg)		Mg <u>0</u> ÷ 12.2	<u>0</u>	Mg
13. Total Hardness (CaCO ₃)		<u>50</u>		
14. Total Iron (Fe)		<u>.7</u>		
15. Barium (Qualitative)				
16. Strontium				

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

32

0

2,228

Ca

←————→

HCO₃

Mg

————→

SO₄

Na

←————→

Cl

548

2

348

Saturation Values

Distilled Water 20°C

Ca CO₃

13 Mg/L

Ca SO₄ • 2H₂O

2,090 Mg/L

Mg CO₃

103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>32</u>		<u>2593</u>
Ca SO ₄	68.07		_____		_____
Ca Cl ₂	55.50		_____		_____
Mg (HCO ₃) ₂	73.17		_____		_____
Mg SO ₄	60.19		_____		_____
Mg Cl ₂	47.62		_____		_____
Na HCO ₃	84.00		<u>516</u>		<u>43,380</u>
Na ₂ SO ₄	71.03		<u>2</u>		<u>142</u>
Na Cl	58.46		<u>330</u>		<u>19,200</u>

Saturation Values Distilled Water 20°C
 Ca CO₃ 13 Mg/L
 Ca SO₄ • 2H₂O 2,090 Mg/L
 Mg CO₃ 103 Mg/L

REMARKS water sample drawn from between 4204'-4645' (35' zones, 140 holes)

Respectfully submitted
 PETROLITE CORP.

PETROLITE

PETROLITE OIL FIELD CHEMICALS GROUP

369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417**WATER ANALYSIS REPORT**COMPANY Coastal Oil & Gas ADDRESS Altamont, Mt. DATE 11-3-87SOURCE 2-2384 (see remarks) DATE SAMPLED 11-2-87 ANALYSIS NO. 3
Analysis Mg/L *Meq/L

1. pH	<u>7.0</u>		
2. H ₂ S (Qualitative)	<u>35ppm</u>		
3. Specific Gravity	<u>1.030</u>		
4. Dissolved Solids		<u>64,655</u>	
5. Suspended Solids			
6. Phenolphthalein Alkalinity (CaCO ₃)			
7. Methyl Orange Alkalinity (CaCO ₃)		<u>28,000</u>	
8. Bicarbonate (HCO ₃)		HCO ₃ <u>34,160</u> ÷ 61 <u>560</u>	HCO ₃
9. Chlorides (Cl)		Cl <u>10,635</u> ÷ 35.5 <u>300</u>	Cl
10. Sulfates (SO ₄)		SO ₄ <u>95</u> ÷ 48 <u>2</u>	SO ₄
11. Calcium (Ca)		Ca <u>423</u> ÷ 20 <u>22</u>	Ca
12. Magnesium (Mg)		Mg <u>0</u> ÷ 12.2 <u>0</u>	Mg
13. Total Hardness (CaCO ₃)		<u>50</u>	
14. Total Iron (Fe)		<u>.6</u>	
15. Barium (Qualitative)			
16. Strontium			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

22

0

843

Ca ←

→ HCO₃

Mg →

SO₄

Na ←

Cl

560

2

300

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>22</u>			<u>1743</u>
Ca SO ₄	68.07				
Ca Cl ₂	55.50				
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19				
Mg Cl ₂	47.62				
Na HCO ₃	84.00		<u>530</u>		<u>45,192</u>
Na ₂ SO ₄	71.03		<u>2</u>		<u>142</u>
Na Cl	58.46		<u>300</u>		<u>17,538</u>

Saturation Values Distilled Water 20°C

Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

REMARKS water drawn from between 4707' - 5186' (29' zones, 116 holes)Respectfully submitted
PETROLITE CORP.

UTAH
NATURAL RESOURCES
OIL, GAS AND MINING

3 Triad Center, Suite 350 Salt Lake City, UT 84180-1203

Ph. (801) 538-5340

MAY 11 1987

DIV. OIL, GAS, MINING

APPLICATION FOR INJECTION WELL

Operator: ANR Limited, Inc. Telephone: (303) 572-1121

Address: P.O. Box 749

City: Denver State: CO Zip: 80201-0749

Well no.: Lake Fork #2-23B4 Field or Unit name: Altamont Field

Sec.: 23 Twp.: 2S Rng.: 4W County: Duchesne Lease no. _____

	YES	NO
Is this application for expansion of an existing project?.....	_____	<u>X</u>
Will the proposed well be used for: Enhanced recovery?.....	_____	<u>X</u>
Disposal?.....	<u>X</u>	_____
Storage?.....	_____	<u>X</u>
Is this application for a new well to be drilled?.....	_____	<u>X</u>
Has a casing test been performed for an existing well?.....	<u>X</u>	_____
(If yes, date of test: <u>12/10/76</u>)		

Injection interval: from 2782' to 5831'

Maximum injection: rate 6000 BWPD pressure 2000 psig

Injection zone contains _____ oil, _____ gas or _____ fresh water within 1/2 mile.

Additional information as required by Rule 502 should accompany this form.

I hereby certify that the foregoing is true and correct to the best of my knowledge:

Signed: Rodney E. Cox Title: Production Engineer Date: 5/8/87
Rodney E. Cox

(This space for DOGM approval)

Approved by: _____ Title: _____ Date: _____

SWD WELL CONVERSION PROCEDURE

Lake Fork #2-23B4 (formerly Brotherson #1-23B4)
Altamont Field
Duchesne County, Utah

April 28, 1987

Well Data

Location: 1985' FNL & 2131' FEL of Section 23, T2S, R4W
Elevation: 6303' KB, 6288' GL
TD: 11,232'
PBSD: 9398'
Casing: 9-5/8" 36# J-55 ST&C @ 2450' w/760 sx cmt
7" 23# S-95 LT&C @ 9905' w/525 sx cmt
5" 18# N-80 FJ Hydril liner from 9489' to 11,232' w/180
sx cmt

Tubular Data

Description	ID	Drift	Capacity	Burst	Collapse
9-5/8" 36# J-55 ST&C	8.921"	8.765"	0.0773 B/F	3520 psi	2020 psi
7" 23# S-95 LT&C	6.336"	6.211"	0.0393 B/F	7530 psi	5650 psi
5" 18# N-80 FJ Hydril	4.276"	4.151"	0.0177 B/F	10,140 psi	10,490 psi

Present Status: Well is temporarily abandoned. Green River perforations (8912-9276') are still open. See attached wellbore schematic.

Procedure

1. MIRU workover unit. NU BOP. RIH w/a 6-1/4" mill, 7" casing scraper, 2-7/8" tubing work string & clean out to $\pm 7200'$. POH w/assembly.
2. MIRU wireline company & set a CIBP @ $\pm 7100'$. Using a glass bottom dump bailer place 2 sx of cement on top of CIBP. Let cement set for 24 hrs.
3. Pressure test casing to 1000 psig.
4. MIRU wireline company w/lubricator. Tag PBSD & perforate 8 cement squeeze holes @ $\pm 5300'$ w/a 4" hollow steel carrier casing gun. (Use OWP cement bond log dated 8/20/70 for correlation.)
5. RIH w/cement retainer on 2-7/8" tubing workstring & set @ $\pm 5250'$. Pressure test casing-tubing annulus to 1000 psig. Pressure test tubing to 4000 psig.
6. MIRU Halliburton & cement squeeze annulus area behind 7" casing as follows:
 - a. Pump 100 bbls 250° F lease water containing 5% by volume paraffin dispersant.

- b. Pump 30 bbls of mud flush.
 - c. Pump 10 bbls freshwater spacer.
 - d. Pump 540 sx Hy-Fill cement.
 - e. Pump 100 sx Class G cement.
 - f. Displace cement w/31 bbls freshwater. Sting out of EZSV packer & reverse out excess cement. POH w/tubing. Let cement set for ± 24 hrs.
7. RU rig pump & power swivel. RIH w/6-1/4" rock bit on 2-7/8" tubing workstring & drill out cement retainer & clean out 7" casing to new PBTD @ $\pm 7100'$.
 8. MIRU wireline company. Run CBL-VDL-CCL-GR log from PBTD past top of cement 400' w/2000 psig.
 9. Repeat steps 4-7 if necessary based on cement top.
 10. MIRU wireline company w/lubricator. Perforate the following Duchesne River-Uinta intervals (2782-5831') w/a 4" hollow carrier casing gun w/select fire 4 JSPF using 90° phasing as follows:

5831	5615	5407	5214	4962	4550	4263
5829	5613	5372	5212	4959	4509	4243
5814	5585	5366	5210	4855	4506	4224
5795	5583	5350	5186	4821	4478	4222
5793	5579	5348	5149	4819	4476	4220
5784	5553	5340	5147	4807	4471	4206
5781	5518	5317	5123	4805	4452	4204
5769	5516	5315	5120	4726	4450	4181
5765	5514	5309	5118	4724	4448	4179
5763	5502	5306	5116	4722	4412	4176
5761	5500	5304	5104	4703	4410	4172
5733	5498	5294	5102	4701	4409	4147
5732	5489	5292	5074	4645	4406	4142
5719	5487	5260	5072	4640	4361	4097
5716	5485	5248	5033	4631	4359	4095
5714	5476	5234	5030	4629	4356	4074
5687	5474	5233	5024	4626	4334	4073
5669	5468	5222	5001	4617	4332	4071
5630	5465	5220	4987	4602	4316	4036
5628	5410	5218	4986	4554	4313	4033
3997	3845	3596	3484	3229	3107	2899
3962	3843	3594	3483	3228	3104	2897
3960	3798	3592	3418	3225	3059	2895
3957	3796	3580	3416	3223	3047	2894
3954	3794	3577	3414	3221	3032	2892
3940	3791	3565	3412	3185	3002	2882

3937	3789	3564	3391	3183	2999	2880
3935	3724	3563	3389	3178	2968	2860
3910	3722	3561	3387	3176	2966	2859
3908	3719	3558	3361	3149	2964	2851
3906	3694	3548	3360	3147	2956	2849
3864	3677	3546	3353	3130	2953	2792
3862	3675	3545	3352	3128	2951	2790
3860	3670	3522	3296	3125	2949	2789
3858	3668	3520	3294	3123	2938	2784
3849	3651	3500	3290	3111	2935	2782
3847	3650	3497	3287	3109	2931	

Notes: Total of 1032 holes. Perforations correlate to Schlumberger BHC-Sonic-GR log dated 7/15/70.

11. RIH w/a Baker LokSet packer (plastic coated internally and externally) & 2-7/8" 6.5# N-80 EUE tubing (plastic coated internally) to $\pm 2600'$. Displace 7" x 2-7/8" annulus w/a clean non-corrosive packer fluid. Set packer @ $\pm 2600'$ w/15,000# compression (pressure test casing-tubing annulus to 2000 psig).
12. MIRU service company. Pressure test surface lines to 5000 psig. Acidize the 1032 perforations from 2782' to 5831' w/13,000 gals 150° F 15% HCL dropping 1500 7/8" 1.1 S.G. (RCN) ballsealers volumetrically. Flush w/120 bbls produced lease water.

- Notes:
1. Acid to contain inhibitor, friction reducer, iron-sequestering agent, surfactant
 2. Pumping rates - pump at maximum possible rate. Do not exceed 5000 psig.
 3. Hole 2000 psig on casing-tubing annulus throughout acid job.

13. ND BOP & NU tree. Flow well to clean acid treatment.

Prepared by Rodney E. Cox
Rodney E. Cox
Production Engineer

Date 5-1-87

Approved by Frank R. Midkiff
Frank R. Midkiff
District Production Manager

Date 5-1-87

Present Wellbore Schematic
 Lake Fork #2-23B4 (Formerly Brotherson #1-23B4)
 Section 23, T2S, R4W
 Altamont Field
 Duchesne County, Utah
 Date: 3-5-87 (R.C.)

20" Conductor @ 40'

9 5/8" 36# J-55 ST: C @
 2450' w/ 760 SX CMT. CIRC.
 ON 5-20-70

Top of CMT @ 5454'

Note: Wellbore temporary
 abandoned ON 4-18-79

Perf Green River (8912'-9380')
 1 JSPF w/a 2" gun ON 12-9-76.
 Total of 117 holes.

Top of Liner @ 9489'

* Perf Green River (7263'-7488')
 8304'-8460' JSPF w/a 2" gun
 ON (2-20-76-75). Total of 93 holes.
 * CMT Squeeze combined intervals
 (7263'-8460') w/ 700 SX CMT ON
 11-20-76. Squeeze pressure 3600 psig.

Perf Green River (9098'-9276') 1
 JSPF w/a 2" gun ON 8-31-74.
 Total of 17 holes

Baker CMT. retainer set @ 9431'
 and spot 100 SX CMT through
 retainer ON 8-30-74. New
 PBTD @ 9398'

7" 23# S-95 LT: C @ 9905'
 w/ 525 SX CMT. ON 7-20-70

* Perf Green River (9922'-10,066') 2
 JSPF w/a 2 1/8" gun ON 9-4-70.
 Repert (9922'-10,066') as above ON
 9-11-70. Combine total of 272 holes.
 CMT. Squeeze (9922'-10,066') w/ 400
 SX CMT. ON 10-25-70.

Perf Green River (10050'-10,926')
 4 JSPF w/a 3 1/8" gun ON 12-31-70.
 Total of 834 holes.

Baker "FA" Packer w/ 2 7/8" x 10'
 tubing sub set @ 11,000'

Perf Green River (11,108'-11,220') 2
 JSPF w/a 2 1/8" gun ON 11-6-70. Total
 of 48 holes.

PBTD @ 11,222'

5" 18# N-80 FJ Hydril Liner
 @ 11,232' w/ 180 SX CMT. ON
 8-17-70.

TD 11,232'

Interval		thickness ft	Fm. or unit name	Fm. temp. °F	R _{log}			hole diam. inches	SP _{log} mv	SSP mv	R _m at fm. temp ohm-m	R _{mt} at fm. temp ohm-m	R _{corrected}			R _t ohm-m	Sonic		Neutron		Density			Φ _{N-D} x-plot	F	R _w from R _{wc} @ 25°C	F _r R _o		
Top ft	Bottom ft				R _{deep} ohm-m	R _{med} ohm-m	R _{shallow} ohm-m						R _{deep} ohm-m	R _{med} ohm-m	R _{shallow} ohm-m		Δt	Φ _{lg} corrected	Φ _{log}	Φ _{ls} corrected	Φ _{log}	Φ _{ls} corrected	ρ _b						
5060	5070	10	Uinta	102	13	19	38	9.0	41.	50.02	1.74	1.34	13.26	19.0	41.42	11.0	71	11%			12.2		2.5	11.9 SS.			.50	2	
												R _{mlog} 1.13																	
												R _{w-3} 1.34																	
5616	5666	20		110'	32	48	52	9.0	54	58	1.73	1.34				32													
																Salinity	11,000	→	20,000	ppm									

$$Z_{2A} = \frac{P_1}{F} = 1.16$$

owner/lease name: Utex Oil / Brotherson 1-2384

Mean annual temp.: 46 = F Altamira

Mud type: FGM

Logs used:

$R_w = 215,000 \text{ pmm}$

$$R_{weg} = .41$$

Low = .49

Interval		Thickness ft	Fm. or unit name	Fm. temp. °F	R _{log}			hole diam. inches	SP _{log} mv	SSP mv	R _m at fou. temp ohm-m	R _m f at fou. temp ohm-m	R _{corrected}			R _t ohm-m	Sonic		Neutron		Density			Φ _{N-D} x-plot	F	R _w from R _{we}	F _r
Top ft	Bottom ft				R _{deep} ohm-m	R _{med} ohm-m	R _{shallow} ohm-m						R _{deep} ohm-m	R _{med} ohm-m	R _{shallow} ohm-m		Δt	Φ _{log} corrected	Φ _{log}	Φ _{log} corrected	Φ _{log}	Φ _{log} corrected	ρ _b				
5056	5068	12'	Limer Vinh	102	15	18	.25	9 1/2	-42	-44	1.73	1.34	15	18	25	14.75	71	1170			-10	129	2.5		71.35	.7	.3

Mud type: FGM
 R_{we} = .49

F_r

-4

T

$$\frac{R_{we}}{R_{ID}} = 1.66$$

$$\frac{R_t}{R_{ID}} = 1.95$$

$$R_t = 14.75$$

$$F = \frac{.62}{\phi^{2.15}}$$

$$F = \frac{.62}{\phi^{2.15}}$$

$$F = 71.35$$

$$R_{wa} = .2$$

$$\frac{R_{IM}}{R_{ID}} = 1.2$$

$$\frac{R_{xo}}{R_t} = 1.9$$

$$R_{mfeg} = 1.47^{\circ 102}$$

$$R_2 = R_1 \left(\frac{T_1}{T_2} \right)^{+6.77}$$

$$2.23 \left(\frac{78 + 6.77}{102 + 6.77} \right)$$

$$R_2 = 2.23 \left(\frac{84.77}{108.77} \right)$$

$$R_2 = 1.73^{\circ 102}$$

$$R_2 = \frac{1.78}{\phi^{1.78}} \left(\frac{75}{102 + 6.77} \right)$$

$$R_2 = \frac{1.78}{\phi^{1.78}} \left(\frac{81.77}{108.77} \right)$$

$$F = \frac{1.45}{\phi^{1.54}}$$

$$F = 43.4$$

$$R_{wa} = .32$$

$$R_{wa} = \frac{R_t}{F}$$

R_{we} & R_w from R_{we}

Location: _____ County: Duchesne
 Lat./Long.: _____ Alt. KB: _____
 Detailed loc: _____ DF: _____
 owner/lease name: _____ GL: _____

Date logged: _____
 Hole depth: 1 1/2 232
 Bottom hole temp: 146 °F
 Fm. temp. Calc. from: BHT; AAPG formula
 API #: _____
 Bit size: 8 3/4
 Mean annual temp: 46 °F Altitude

R_m 2.23 @ 78 °F Salinity change is: gradual ; sharp
 R_{mf} 1.78 @ 75 °F Logs used: _____
 R_{mc} _____ @ _____ °F
 R tool standoff: 1 1/2 inches F = 53 ~22,000 ppm
 Neutron tool standoff: _____ inches Salinity
 Time since circulation: _____
 Mud weight: 11 #/gal
 Mud type: F-G-M

Interval		thickness ft	Fm. or unit name	Fm. temp. °F	R _{log}			hole diam. inches	SP _{log} mv	SSP mv	R _m at Fm. temp ohm-m	R _{mf} at Fm. temp ohm-m	R _{corrected}			R _t ohm-m	Sonic		Neutron		Density			φ _{N-D} x-plot	F	R _w from R _{wc} @ 25°C	F _r %
Top ft	Bottom ft				R _{deep} ohm-m LLD	R _{med} ohm-m LLM	R _{shallow} ohm-m LLS						R _{deep} ohm-m	R _{med} ohm-m	R _{shallow} ohm-m		Δt	φ _{log} corrected	φ _{log}	φ _{log} corrected	φ _{log}	φ _{log} corrected	ρ _b				
5296	5308	12	Vinta	105	12	15	25	9.0	-20	-2	1.69	1.30	12	15	25	10.8	68	12%			11	12%	2.5	53	12	2	

$R_t = .9$
 $/ R_{SD}$

$R_t = 10.8$

$R_{mf} / R_{wcg} = 2.3$

$R_{xo} / R_t = 2.55$

$R_{xo} = 27.54$

$d_i = 55"$

$R_{wc} = .56$

$F = 38$

$F = 53$

$F = 59$

$2.55 = \frac{R_{mf}}{R_{wc}}$

Philips sandstone

Phillips Crk. SS.

Humble.

$R_{wa} = .28 \approx 18,000 \text{ ppm}$

$R_{wa} = .20 \approx 22,000 \text{ ppm}$

$R_{wa} = .18 \approx 25,000 \text{ ppm}$

$R_t = .9$
 R_{so}

$R_{xo}/R_t = 2.55$

$R_t = 10.8$

$R_{xo} = 27.54$

$d_i = 55"$

$2.55 = \frac{R_{mf}}{R_{wo}}$

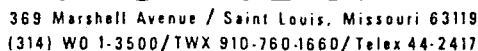
$R_{mf} / R_{weq} = 2.3$

$R_{weq} = .6$

$R_{we} = .5$

F = 38 Philips sandstone
 F = 53 Phillips Calc. SS.
 F = 59 Humble.

$R_{wa} = .28 \sim 18,000 \text{ ppm}$
 $R_{wa} = .20 \sim 22,000 \text{ ppm}$
 $R_{wa} = .18 \sim 25,000 \text{ ppm}$



Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION
369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-17B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

- | | | | |
|--|--------------|----------------------------------|---------------------------|
| 1. pH | <u>8</u> | | |
| 2. H ₂ S (Qualitative) | <u>3ppm</u> | | |
| 3. Specific Gravity | <u>1.005</u> | | |
| 4. Dissolved Solids | | <u>6,128</u> | |
| 5. Suspended Solids | | | |
| 6. Phenolphthalein Alkalinity (CaCO ₃) | | | |
| 7. Methyl Orange Alkalinity (CaCO ₃) | | <u>110</u> | |
| 8. Bicarbonate (HCO ₃) | | HCO ₃ <u>134</u> ÷ 61 | <u>2</u> HCO ₃ |
| 9. Chlorides (Cl) | | Cl <u>2339</u> ÷ 35.5 | <u>66</u> Cl |
| 10. Sulfates (SO ₄) | | SO ₄ <u>1500</u> ÷ 48 | <u>31</u> SO ₄ |
| 11. Calcium (Ca) | | Ca <u>86</u> ÷ 20 | <u>4</u> Ca |
| 12. Magnesium (Mg) | | Mg <u>94</u> ÷ 12.2 | <u>8</u> Mg |
| 13. Total Hardness (CaCO ₃) | | <u>600</u> | |
| 14. Total Iron (Fe) | | <u>1.4</u> | |
| 15. Barium (Qualitative) | | | |
| 16. Strontium | | | |

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

				Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
<div>4 8 87</div>	Ca	←	HCO ₃	<div>2</div>	81.04		2		160
	Mg	→	SO ₄	<div>31</div>	68.07		2		136
	Na	→	Cl	<div>66</div>	55.50		-		-
					73.17		-		-
					Mg (HCO ₃) ₂		8		481
					Mg SO ₄		-		-
					Mg Cl ₂		-		-
					Na HCO ₃		-		-
					Na ₂ SO ₄		21		1491
					Na Cl		66		3858

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY utex ADDRESS _____ DATE: 3/12/86

SOURCE 2-10B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7
 2. H₂S (Qualitative) 4ppm
 3. Specific Gravity 1.000
 4. Dissolved Solids 7,042
 5. Suspended Solids _____
 6. Phenolphthalein Alkalinity (CaCO₃) _____
 7. Methyl Orange Alkalinity (CaCO₃) 130
 8. Bicarbonate (HCO₃) 160 ÷ 61 3 HCO₃
 9. Chlorides (Cl) 2127 ÷ 35.5 60 Cl
 10. Sulfates (SO₄) 2250 ÷ 48 47 SO₄
 11. Calcium (Ca) 86 ÷ 20 4 Ca
 12. Magnesium (Mg) 45 ÷ 12.2 4 Mg
 13. Total Hardness (CaCO₃) 400
 14. Total Iron (Fe) .8
 15. Barium (Qualitative) _____
 16. Strontium _____
- *Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

		Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
<div>4 4 102</div>	Ca	HCO ₃	3		3		243
	Mg	SO ₄	47		1		68
	Na	Cl	60		-		-
		Mg (HCO ₃) ₂	73.17		-		-
		Mg SO ₄	60.19		4		240
		Mg Cl ₂	47.62		-		-
		Na HCO ₃	84.00		-		-
		Na ₂ SO ₄	71.03		42		2983
		Na Cl	58.46		60		3508

Saturation Values Distilled Water 20°C
Ca CO₃ 13 Mg/L
Ca SO₄ • 2H₂O 2,090 Mg/L
Mg CO₃ 103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-15B5 DATE SAMPLED 3/10/86 ANALYSIS NO.

Analysis

Mg/L

* Meq/L

- | | |
|---|-------|
| 1. pH | 7 |
| 2. H_2S (Qualitative) | 2ppm |
| 3. Specific Gravity | 1.000 |
| 4. Dissolved Solids | |
| 5. Suspended Solids | |
| 6. Phenolphthalein Alkalinity (CaCO_3) | |
| 7. Methyl Orange Alkalinity (CaCO_3) | |
| 8. Bicarbonate (HCO_3) | |
| 9. Chlorides (Cl) | |
| 10. Sulfates (SO_4) | |
| 11. Calcium (Ca) | |
| 12. Magnesium (Mg) | |
| 13. Total Hardness (CaCO_3) | |
| 14. Total Iron (Fe) | |
| 15. Barium (Qualitative) | |
| 16. Strontium | |

*Milli equivalents per liter

	<u>3990</u>		
	<u> </u>		
	<u> </u>		
	<u>100</u>		
HCO ₃	<u>122</u>	÷ 61	<u>2</u> HCO ₃
Cl	<u>2127</u>	÷ 35.5	<u>60</u> Cl
SO ₄	<u>225</u>	÷ 48	<u>5</u> SO ₄
Ca	<u>173</u>	÷ 20	<u>9</u> Ca
Mg	<u>16</u>	÷ 12.2	<u>1</u> Mg
	<u>500</u>		
	<u>.4</u>		

PROBABLE MINERAL COMPOSITION

9	Ca	←	HCO ₃	2
1	Mg	→	SO ₄	5
57	Na	→	Cl	60

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/L

$$\text{Ca SO}_4 \cdot 2\text{H}_2\text{O} \quad 2,090 \text{ Mg/L}$$

Mg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L =	Mg/L
Ca (HCO ₃) ₂	81.04	<u>2</u>		<u>160</u>
Ca SO ₄	68.07	<u>5</u>		<u>340</u>
Ca Cl ₂	55.50	<u>2</u>		<u>111</u>
Mg (HCO ₃) ₂	73.17	<u>-</u>		<u>-</u>
Mg SO ₄	60.19	<u>-</u>		<u>-</u>
Mg Cl ₂	47.62	<u>1</u>		<u>47</u>
Na HCO ₃	84.00	<u>-</u>		<u>-</u>
Na ₂ SO ₄	71.03	<u>-</u>		<u>-</u>
Na Cl	58.46	<u>57</u>		<u>3332</u>

REMARKS _____



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-17B5 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis	Mg/L	*Meq/L
1. pH <u>7</u>		
2. H ₂ S (Qualitative) <u>3ppm</u>		
3. Specific Gravity <u>1.000</u>		
4. Dissolved Solids <u>6568</u>		
5. Suspended Solids _____		
6. Phenolphthalein Alkalinity (CaCO ₃) _____		
7. Methyl Orange Alkalinity (CaCO ₃) <u>130</u>		
8. Bicarbonate (HCO ₃) <u>159</u> ÷ 61 <u>3</u> HCO ₃		
9. Chlorides (Cl) <u>3191</u> ÷ 35.5 <u>90</u> Cl		
10. Sulfates (SO ₄) <u>750</u> ÷ 48 <u>16</u> SO ₄		
11. Calcium (Ca) <u>173</u> ÷ 20 <u>9</u> Ca		
12. Magnesium (Mg) <u>65</u> ÷ 12.2 <u>5</u> Mg		
13. Total Hardness (CaCO ₃) <u>700</u>		
14. Total Iron (Fe) <u>.5</u>		
15. Barium (Qualitative) _____		
16. Strontium _____		

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>3</u>	<u>243</u>		
Ca SO ₄	68.07	<u>6</u>	<u>408</u>		
Ca Cl ₂	55.50	-	-		
Mg (HCO ₃) ₂	73.17	-	-		
Mg SO ₄	60.19	<u>5</u>	<u>301</u>		
Mg Cl ₂	47.62	-	-		
Na HCO ₃	84.00	-	-		
Na ₂ SO ₄	71.03	<u>5</u>	<u>355</u>		
Na Cl	58.46	<u>90</u>	<u>5261</u>		

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-780-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-25B5 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 8
2. H₂S (Qualitative) 107ppm
3. Specific Gravity 1.000
4. Dissolved Solids 6382
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 130
8. Bicarbonate (HCO₃) 159
9. Chlorides (Cl) 2127
10. Sulfates (SO₄) 1800
11. Calcium (Ca) 86
12. Magnesium (Mg) 69
13. Total Hardness (CaCO₃) 500
14. Total Iron (Fe) .2
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>159</u>	÷ 61	<u>3</u>	HCO ₃
Cl	<u>2127</u>	÷ 35.5	<u>60</u>	Cl
SO ₄	<u>1800</u>	÷ 48	<u>38</u>	SO ₄
Ca	<u>86</u>	÷ 20	<u>4</u>	Ca
Mg	<u>69</u>	÷ 12.2	<u>6</u>	Mg
	<u>500</u>			
	<u>.2</u>			

* Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca	←	HCO ₃	3
6	Mg	←	SO ₄	38
91	Na	←	Cl	60

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>3</u>		<u>243</u>
Ca SO ₄	68.07		<u>1</u>		<u>68</u>
Ca Cl ₂	55.50		<u>-</u>		<u>-</u>
Mg (HCO ₃) ₂	73.17		<u>-</u>		<u>-</u>
Mg SO ₄	60.19		<u>6</u>		<u>361</u>
Mg Cl ₂	47.62		<u>-</u>		<u>-</u>
Na HCO ₃	84.00		<u>-</u>		<u>-</u>
Na ₂ SO ₄	71.03		<u>31</u>		<u>2202</u>
Na Cl	58.46		<u>60</u>		<u>3508</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63118
(314) WD 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-30B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7
2. H₂S (Qualitative) 2ppm
3. Specific Gravity 1.010
4. Dissolved Solids 5140
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 100
8. Bicarbonate (HCO₃) 122
9. Chlorides (Cl) 1702
10. Sulfates (SO₄) 1500
11. Calcium (Ca) 86
12. Magnesium (Mg) 21
13. Total Hardness (CaCO₃) 300
14. Total Iron (Fe) .4
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>122</u>	÷ 61	<u>2</u>	HCO ₃
Cl	<u>1702</u>	÷ 35.5	<u>48</u>	Cl
SO ₄	<u>1500</u>	÷ 48	<u>31</u>	SO ₄
Ca	<u>86</u>	÷ 20	<u>4</u>	Ca
Mg	<u>21</u>	÷ 12.2	<u>2</u>	Mg

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca	←	HCO ₃	2
2	Mg	←	SO ₄	31
75	Na	←	Cl	48

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>2</u>		<u>162</u>
Ca SO ₄	68.07		<u>2</u>		<u>136</u>
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		<u>2</u>		<u>120</u>
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		-		-
Na ₂ SO ₄	71.03		<u>27</u>		<u>1918</u>
Na Cl	58.46		<u>48</u>		<u>2806</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-14B4/1-26B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7.5
2. H₂S (Qualitative) 7ppm
3. Specific Gravity 1.010
4. Dissolved Solids 6551
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 120
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) _____
14. Total Iron (Fe) _____
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>146</u>	÷ 61	<u>2</u>	HCO ₃
Cl	<u>2552</u>	÷ 35.5	<u>72</u>	Cl
SO ₄	<u>1500</u>	÷ 48	<u>31</u>	SO ₄
Ca	<u>43</u>	÷ 20	<u>2</u>	Ca
Mg	<u>22</u>	÷ 12.2	<u>2</u>	Mg
	<u>200</u>			
	<u>1</u>			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	2
2	Mg	←	SO ₄	31
101	Na	←	Cl	72

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>2</u>		<u>162</u>
Ca SO ₄	68.07		<u>-</u>		<u>-</u>
Ca Cl ₂	55.50		<u>-</u>		<u>-</u>
Mg (HCO ₃) ₂	73.17		<u>-</u>		<u>-</u>
Mg SO ₄	60.19		<u>2</u>		<u>120</u>
Mg Cl ₂	47.62		<u>-</u>		<u>-</u>
Na HCO ₃	84.00		<u>-</u>		<u>-</u>
Na ₂ SO ₄	71.03		<u>29</u>		<u>2060</u>
Na Cl	58.46		<u>72</u>		<u>4209</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-28-B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 9.52. H₂S (Qualitative) +100ppm3. Specific Gravity 1.0454. Dissolved Solids 132,532

5. Suspended Solids _____

6. Phenolphthalein Alkalinity (CaCO₃) _____7. Methyl Orange Alkalinity (CaCO₃) 20008. Bicarbonate (HCO₃) HCO₃ 2440 ÷ 61 40 HCO₃9. Chlorides (Cl) Cl 19,143 ÷ 35.5 539 Cl10. Sulfates (SO₄) SO₄ 66,000 ÷ 48 1375 SO₄11. Calcium (Ca) Ca 22 ÷ 20 1 Ca12. Magnesium (Mg) Mg 0 ÷ 12.2 0 Mg13. Total Hardness (CaCO₃) 2014. Total Iron (Fe) 10

15. Barium (Qualitative)

16. Strontium

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

1	Ca	←	HCO ₃	40
0	Mg	←	SO ₄	1375
1953	Na	←	Cl	539

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		1		81
Ca SO ₄	68.07		-		-
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		-		-
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		39		3276
Na ₂ SO ₄	71.03		1375		97,666
Na Cl	58.46		539		31,509

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86
SOURCE 1-16B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____
Analysis Mg/L *Meq/L

1. pH 8
2. H₂S (Qualitative) 31ppm
3. Specific Gravity 1.020
4. Dissolved Solids 13,502
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 200
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) _____
14. Total Iron (Fe) _____
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>244</u>	÷ 61	<u>4</u>	HCO ₃
Cl	<u>6381</u>	÷ 35.5	<u>180</u>	Cl
SO ₄	<u>1800</u>	÷ 48	<u>38</u>	SO ₄
Ca	<u>86</u>	÷ 20	<u>4</u>	Ca
Mg	<u>45</u>	÷ 12.2	<u>4</u>	Mg
	<u>400</u>			
	<u>.7</u>			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

4	Ca	←	HCO ₃	4
4	Mg	←	SO ₄	38
214	Na	←	Cl	180

Saturation Values Distilled Water 20°C
Ca CO₃ 13 Mg/L
Ca SO₄ • 2H₂O 2,090 Mg/L
Mg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>4</u>		<u>324</u>
Ca SO ₄	68.07		-		-
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		<u>4</u>		<u>241</u>
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		-		-
Na ₂ SO ₄	71.03		<u>34</u>		<u>2415</u>
Na Cl	58.46		<u>180</u>		<u>10,522</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE 3/12/86SOURCE 2-2B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 9
2. H₂S (Qualitative) 78ppm
3. Specific Gravity 1.005
4. Dissolved Solids 8,914
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 130
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) _____
14. Total Iron (Fe) _____
15. Barium (Qualitative) _____
16. Strontium _____

	<u>8,914</u>		
	<u>130</u>		
8. Bicarbonate (HCO ₃)	<u>159</u>	÷ 61	<u>3</u> HCO ₃
9. Chlorides (Cl)	<u>1914</u>	÷ 35.5	<u>54</u> Cl
10. Sulfates (SO ₄)	<u>3750</u>	÷ 48	<u>78</u> SO ₄
11. Calcium (Ca)	<u>86</u>	÷ 20	<u>4</u> Ca
12. Magnesium (Mg)	<u>20</u>	÷ 12.2	<u>2</u> Mg
13. Total Hardness (CaCO ₃)	<u>300</u>		
14. Total Iron (Fe)	<u>.6</u>		

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

	Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
4	Ca (HCO ₃) ₂	81.04		<u>3</u>		<u>243</u>
2	Ca SO ₄	68.07		<u>1</u>		<u>68</u>
129	Ca Cl ₂	55.50		<u>-</u>		<u>-</u>
	Mg (HCO ₃) ₂	73.17		<u>-</u>		<u>-</u>
	Mg SO ₄	60.19		<u>2</u>		<u>120</u>
	Mg Cl ₂	47.62		<u>-</u>		<u>-</u>
	Na HCO ₃	84.00		<u>-</u>		<u>-</u>
	Na ₂ SO ₄	71.03		<u>75</u>		<u>5327</u>
	Na Cl	58.46		<u>54</u>		<u>3156</u>

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-9B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____
Analysis Mg/L *Meq/L1. pH 62. H₂S (Qualitative) 3ppm3. Specific Gravity 1.0054. Dissolved Solids 4673

5. Suspended Solids _____

6. Phenolphthalein Alkalinity (CaCO₃) _____7. Methyl Orange Alkalinity (CaCO₃) 808. Bicarbonate (HCO₃) HCO₃ 98 ÷ 61 2 HCO₃9. Chlorides (Cl) Cl 1276 ÷ 35.5 36 Cl10. Sulfates (SO₄) SO₄ 1650 ÷ 48 34 SO₄11. Calcium (Ca) Ca 86 ÷ 20 4 Ca12. Magnesium (Mg) Mg 0 ÷ 12.2 0 Mg13. Total Hardness (CaCO₃) 20014. Total Iron (Fe) .6

15. Barium (Qualitative)

16. Strontium

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

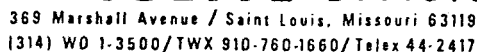
Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>2</u>	<u>160</u>		
Ca SO ₄	68.07	<u>2</u>	<u>136</u>		
Ca Cl ₂	55.50	-	-		
Mg (HCO ₃) ₂	73.17	-	-		
Mg SO ₄	60.19	-	-		
Mg Cl ₂	47.62	-	-		
Na HCO ₃	84.00	-	-		
Na ₂ SO ₄	71.03	<u>32</u>	<u>2273</u>		
Na Cl	58.46	<u>36</u>	<u>2104</u>		

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WD 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-5B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 9
2. H₂S (Qualitative) 91ppm
3. Specific Gravity 1.000
4. Dissolved Solids 4794
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 120
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) 200
14. Total Iron (Fe) .4
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>146</u>	÷ 61	<u>2</u>	HCO ₃
Cl	<u>1489</u>	÷ 35.5	<u>42</u>	Cl
SO ₄	<u>1500</u>	÷ 48	<u>31</u>	SO ₄
Ca	<u>43</u>	÷ 20	<u>2</u>	Ca
Mg	<u>22</u>	÷ 12.2	<u>2</u>	Mg

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	2
2	Mg	←	SO ₄	31
71	Na	←	Cl	42

Saturation Values Distilled Water 20°C
Ca CO₃ 13 Mg/L
Ca SO₄ • 2H₂O 2,090 Mg/L
Mg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>2</u>		<u>162</u>
Ca SO ₄	68.07		-		-
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		<u>2</u>		<u>120</u>
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		-		-
Na ₂ SO ₄	71.03		<u>29</u>		<u>2059</u>
Na Cl	58.46		<u>42</u>		<u>2455</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WD 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY utex ADDRESS _____ DATE: 3/12/86SOURCE 1-16B5 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7
2. H₂S (Qualitative) 5ppm
3. Specific Gravity 1.000
4. Dissolved Solids 4194
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 90
8. Bicarbonate (HCO₃) 110
9. Chlorides (Cl) 2127
10. Sulfates (SO₄) 375
11. Calcium (Ca) 259
12. Magnesium (Mg) 13
13. Total Hardness (CaCO₃) 700
14. Total Iron (Fe) .6
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>110</u>	÷ 61	<u>2</u>	HCO ₃
Cl	<u>2127</u>	÷ 35.5	<u>60</u>	Cl
SO ₄	<u>375</u>	÷ 48	<u>8</u>	SO ₄
Ca	<u>259</u>	÷ 20	<u>13</u>	Ca
Mg	<u>13</u>	÷ 12.2	<u>1</u>	Mg
	<u>700</u>			
	<u>.6</u>			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

13	Ca	←	HCO ₃	2
1	Mg	←	SO ₄	8
56	Na	←	Cl	60

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>2</u>		<u>160</u>
Ca SO ₄	68.07		<u>8</u>		<u>545</u>
Ca Cl ₂	55.50		<u>3</u>		<u>167</u>
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		-		-
Mg Cl ₂	47.62		<u>1</u>		<u>48</u>
Na HCO ₃	84.00		-		-
Na ₂ SO ₄	71.03		-		-
Na Cl	58.46		<u>56</u>		<u>3274</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-1B5 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7.5
2. H₂S (Qualitative) 5ppm
3. Specific Gravity 1.005
4. Dissolved Solids 5762
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 70
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) 500
14. Total Iron (Fe) 3.8
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>85</u>	÷ 61	<u>1</u>	HCO ₃
Cl	<u>2127</u>	÷ 35.5	<u>60</u>	Cl
SO ₄	<u>1500</u>	÷ 48	<u>31</u>	SO ₄
Ca	<u>216</u>	÷ 20	<u>11</u>	Ca
Mg	<u>0</u>	÷ 12.2	<u>0</u>	Mg

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

11	Ca	←	HCO ₃	1
0	Mg	→	SO ₄	31
81	Na	→	Cl	60

Saturation Values Distilled Water 20°C

Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>1</u>		<u>81</u>
Ca SO ₄	68.07		<u>10</u>		<u>681</u>
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		-		-
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		-		-
Na ₂ SO ₄	71.03		<u>21</u>		<u>1492</u>
Na Cl	58.46		<u>60</u>		<u>3508</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE 3/12/86SOURCE 2-7B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 8
2. H₂S (Qualitative) 11ppm
3. Specific Gravity 1.010
4. Dissolved Solids 9176
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 90
8. Bicarbonate (HCO₃) 110 ÷ 61 2 HCO₃
9. Chlorides (Cl) 2127 ÷ 35.5 60 Cl
10. Sulfates (SO₄) 3750 ÷ 48 78 SO₄
11. Calcium (Ca) 173 ÷ 20 9 Ca
12. Magnesium (Mg) 16 ÷ 12.2 1 Mg
13. Total Hardness (CaCO₃) 500
14. Total Iron (Fe) .7
15. Barium (Qualitative) _____
16. Strontium _____

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

* <div style="display: inline-block; border: 1px solid black; padding: 2px;">9</div>		* <div style="display: inline-block; border: 1px solid black; padding: 2px;">2</div>		Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
<div style="display: inline-block; border: 1px solid black; padding: 2px;">1</div>	Ca	←	HCO ₃	Ca (HCO ₃) ₂	81.04		2		162
	Mg	→	SO ₄	Ca SO ₄	68.07		7		476
	Na	→	Cl	Ca Cl ₂	55.50		-		-
<div style="display: inline-block; border: 1px solid black; padding: 2px;">130</div>				Mg (HCO ₃) ₂	73.17		-		-
				Mg SO ₄	60.19		1		60
				Mg Cl ₂	47.62		-		-
				Na HCO ₃	84.00		-		-
				Na ₂ SO ₄	71.03		70		4972
				Na Cl	58.46		60		3508

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-20B4 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7.5
2. H₂S (Qualitative) 12ppm
3. Specific Gravity 1.000
4. Dissolved Solids 9073
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 60
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) _____
14. Total Iron (Fe) .3
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>73</u>	÷ 61	<u>1</u>	HCO ₃
Cl	<u>3403</u>	÷ 35.5	<u>96</u>	Cl
SO ₄	<u>1950</u>	÷ 48	<u>41</u>	SO ₄
Ca	<u>43</u>	÷ 20	<u>2</u>	Ca
Mg	<u>22</u>	÷ 12.2	<u>2</u>	Mg
	<u>200</u>			
	<u>.3</u>			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	1
2	Mg	←	SO ₄	41
134	Na	←	Cl	96

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/L

Ca SO₄ • 2H₂O 2,090 Mg/L

Mg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>1</u>		<u>81</u>
Ca SO ₄	68.07		<u>1</u>		<u>68</u>
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		-		-
Mg SO ₄	60.19		<u>2</u>		<u>120</u>
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		-		-
Na ₂ SO ₄	71.03		<u>38</u>		<u>3192</u>
Na Cl	58.46		<u>96</u>		<u>5612</u>

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-24B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH	<u>7</u>		
2. H ₂ S (Qualitative)	<u>2ppm</u>		
3. Specific Gravity	<u>1.000</u>		
4. Dissolved Solids	<u>3702</u>		
5. Suspended Solids			
6. Phenolphthalein Alkalinity (CaCO ₃)			
7. Methyl Orange Alkalinity (CaCO ₃)	<u>80</u>		
8. Bicarbonate (HCO ₃)	HCO ₃ <u>98</u>	÷ 61	<u>2</u> HCO ₃
9. Chlorides (Cl)	Cl <u>1914</u>	÷ 35.5	<u>54</u> Cl
10. Sulfates (SO ₄)	SO ₄ <u>300</u>	÷ 48	<u>6</u> SO ₄
11. Calcium (Ca)	Ca <u>43</u>	÷ 20	<u>2</u> Ca
12. Magnesium (Mg)	Mg <u>47</u>	÷ 12.2	<u>4</u> Mg
13. Total Hardness (CaCO ₃)	<u>300</u>		
14. Total Iron (Fe)	<u>6</u>		
15. Barium (Qualitative)			
16. Strontium			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

			Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
2	Ca	← HCO ₃	Ca (HCO ₃) ₂	81.04		2		162
4	Mg	→ SO ₄	Ca SO ₄	68.07		-		-
56	Na	→ Cl	Ca Cl ₂	55.50		-		-
			Mg (HCO ₃) ₂	73.17		-		-
			Mg SO ₄	60.19		4		241
			Mg Cl ₂	47.62		-		-
			Na HCO ₃	84.00		-		-
			Na ₂ SO ₄	71.03		2		142
			Na Cl	58.46		54		3157

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

368 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-21B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7
2. H₂S (Qualitative) 7ppm
3. Specific Gravity 1.005
4. Dissolved Solids 5933
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) 100
7. Methyl Orange Alkalinity (CaCO₃) _____
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) _____
14. Total Iron (Fe) _____
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>122</u>	÷ 61	<u>2</u>	HCO ₃
Cl	<u>1489</u>	÷ 35.5	<u>42</u>	Cl
SO ₄	<u>2250</u>	÷ 48	<u>47</u>	SO ₄
Ca	<u>43</u>	÷ 20	<u>2</u>	Ca
Mg	<u>22</u>	÷ 12.2	<u>2</u>	Mg
	<u>100</u>			
	<u>.9</u>			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

				Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
2	Ca	←	HCO ₃	Ca (HCO ₃) ₂	81.04		<u>2</u>		<u>162</u>
2	Mg	→	SO ₄	Ca SO ₄	68.07		-		-
87	Na	→	Cl	Ca Cl ₂	55.50		-		-
				Mg (HCO ₃) ₂	73.17		-		-
				Mg SO ₄	60.19		<u>2</u>		<u>120</u>
				Mg Cl ₂	47.62		-		-
				Na HCO ₃	84.00		-		-
				Na ₂ SO ₄	71.03		<u>45</u>		<u>3196</u>
				Na Cl	58.46		<u>42</u>		<u>2455</u>

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WD 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-24B5 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 92. H₂S (Qualitative) 21ppm3. Specific Gravity 1.0204. Dissolved Solids 18,592

5. Suspended Solids _____

6. Phenolphthalein Alkalinity (CaCO₃) _____7. Methyl Orange Alkalinity (CaCO₃) 5608. Bicarbonate (HCO₃) 683 ÷ 61 11 HCO₃9. Chlorides (Cl) 9784 ÷ 35.5 276 Cl10. Sulfates (SO₄) 2250 ÷ 48 47 SO₄11. Calcium (Ca) 43 ÷ 20 2 Ca12. Magnesium (Mg) 47 ÷ 12.2 4 Mg13. Total Hardness (CaCO₃) 30014. Total Iron (Fe) .8

15. Barium (Qualitative)

16. Strontium

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

2	Ca	←	HCO ₃	11
4	Mg	←	SO ₄	47
298	Na	←	Cl	246

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		2		162
Ca SO ₄	68.07		-		-
Ca Cl ₂	55.50		-		-
Mg (HCO ₃) ₂	73.17		4		293
Mg SO ₄	60.19		-		-
Mg Cl ₂	47.62		-		-
Na HCO ₃	84.00		5		420
Na ₂ SO ₄	71.03		47		3338
Na Cl	58.46		246		14,381

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WD 1-3500/TWX 910-760-1660/Telax 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-8B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 62. H₂S (Qualitative) 3ppm3. Specific Gravity 1.0104. Dissolved Solids 3126

5. Suspended Solids _____

6. Phenolphthalein Alkalinity (CaCO₃) _____7. Methyl Orange Alkalinity (CaCO₃) 908. Bicarbonate (HCO₃) HCO₃ 110 ÷ 61 2 HCO₃9. Chlorides (Cl) Cl 1063 ÷ 35.5 30 Cl10. Sulfates (SO₄) SO₄ 975 ÷ 48 20 SO₄11. Calcium (Ca) Ca 130 ÷ 20 6 Ca12. Magnesium (Mg) Mg 220 ÷ 12.2 18 Mg13. Total Hardness (CaCO₃) 40014. Total Iron (Fe) 9

15. Barium (Qualitative)

16. Strontium

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>2</u>	<u>160</u>		
Ca SO ₄	68.07	<u>4</u>	<u>272</u>		
Ca Cl ₂	55.50	<u>-</u>	<u>-</u>		
Mg (HCO ₃) ₂	73.17	<u>-</u>	<u>-</u>		
Mg SO ₄	60.19	<u>16</u>	<u>963</u>		
Mg Cl ₂	47.62	<u>2</u>	<u>95</u>		
Na HCO ₃	84.00	<u>-</u>	<u>-</u>		
Na ₂ SO ₄	71.03	<u>-</u>	<u>-</u>		
Na Cl	58.46	<u>28</u>	<u>1636</u>		

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION
 369 Marshall Avenue / Saint Louis, Missouri 63119
 (314) WD 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-10B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

* Meq/L

1. pH 8.5
2. H₂S (Qualitative) 200ppm
3. Specific Gravity 1.010
4. Dissolved Solids 11,003
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) _____
7. Methyl Orange Alkalinity (CaCO₃) 120
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) _____
14. Total Iron (Fe) .5
15. Barium (Qualitative) _____
16. Strontium _____

HCO ₃	<u>146</u>	÷ 61	<u>2</u>	HCO ₃
Cl	<u>2552</u>	÷ 35.5	<u>72</u>	Cl
SO ₄	<u>4500</u>	÷ 48	<u>94</u>	SO ₄
Ca	<u>43</u>	÷ 20	<u>2</u>	Ca
Mg	<u>47</u>	÷ 12.2	<u>4</u>	Mg
	<u>300</u>			
	<u>.5</u>			

* Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

<u>2</u>	Ca	←	HCO ₃	<u>2</u>
<u>4</u>	Mg	←	SO ₄	<u>94</u>
<u>162</u>	Na	←	Cl	<u>72</u>

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>2</u>		<u>162</u>
Ca SO ₄	68.07		<u>-</u>		<u>-</u>
Ca Cl ₂	55.50		<u>-</u>		<u>-</u>
Mg (HCO ₃) ₂	73.17		<u>-</u>		<u>-</u>
Mg SO ₄	60.19		<u>4</u>		<u>241</u>
Mg Cl ₂	47.62		<u>-</u>		<u>-</u>
Na HCO ₃	84.00		<u>-</u>		<u>-</u>
Na ₂ SO ₄	71.03		<u>90</u>		<u>6393</u>
Na Cl	58.46		<u>72</u>		<u>4209</u>

REMARKS _____

Respectfully submitted
 TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417

WATER ANALYSIS REPORT

COMPANY Utex ADDRESS _____ DATE: 3/12/86

SOURCE 1-19B4 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis	Mg/L	*Meq/L
1. pH	<u>7</u>	
2. H ₂ S (Qualitative)	<u>1ppm</u>	
3. Specific Gravity	<u>1.020</u>	
4. Dissolved Solids	<u>8,009</u>	
5. Suspended Solids		
6. Phenolphthalein Alkalinity (CaCO ₃)		
7. Methyl Orange Alkalinity (CaCO ₃)	<u>90</u>	
8. Bicarbonate (HCO ₃)	<u>110</u> ÷ 61	<u>2</u> HCO ₃
9. Chlorides (Cl)	<u>2765</u> ÷ 35.5	<u>78</u> Cl
10. Sulfates (SO ₄)	<u>2250</u> ÷ 48	<u>47</u> SO ₄
11. Calcium (Ca)	<u>86</u> ÷ 20	<u>4</u> Ca
12. Magnesium (Mg)	<u>45</u> ÷ 12.2	<u>4</u> Mg
13. Total Hardness (CaCO ₃)	<u>400</u>	
14. Total Iron (Fe)	<u>1</u>	
15. Barium (Qualitative)		
16. Strontium		

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>2</u>			<u>160</u>
Ca SO ₄	68.07	<u>2</u>			<u>160</u>
Ca Cl ₂	55.50	<u>-</u>			<u>-</u>
Mg (HCO ₃) ₂	73.17	<u>-</u>			<u>-</u>
Mg SO ₄	60.19	<u>4</u>			<u>241</u>
Mg Cl ₂	47.62	<u>-</u>			<u>-</u>
Na HCO ₃	84.00	<u>-</u>			<u>-</u>
Na ₂ SO ₄	71.03	<u>41</u>			<u>2912</u>
Na Cl	58.46	<u>78</u>			<u>4560</u>

Saturation Values	Distilled Water 20°C
Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

4	Ca	←	HCO ₃	2
4	Mg	←	SO ₄	47
119	Na	←	Cl	48

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



TRETOLITE DIVISION

369 Marshall Avenue / Saint Louis, Missouri 63119
(314) WO 1-3500/TWX 910-760-1660/Telex 44-2417**WATER ANALYSIS REPORT**COMPANY Utex ADDRESS _____ DATE: 3/12/86SOURCE 1-23B5 DATE SAMPLED 3/10/86 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. pH 7
 2. H₂S (Qualitative) 3ppm
 3. Specific Gravity 1.005
 4. Dissolved Solids 4.565
 5. Suspended Solids _____
 6. Phenolphthalein Alkalinity (CaCO₃) _____
 7. Methyl Orange Alkalinity (CaCO₃) 70
 8. Bicarbonate (HCO₃) 85 ÷ 61 1 HCO₃
 9. Chlorides (Cl) 2127 ÷ 35.5 60 Cl
 10. Sulfates (SO₄) 600 ÷ 48 13 SO₄
 11. Calcium (Ca) 86 ÷ 20 4 Ca
 12. Magnesium (Mg) 21 ÷ 12.2 2 Mg
 13. Total Hardness (CaCO₃) 300
 14. Total Iron (Fe) 2.4
 15. Barium (Qualitative) _____
 16. Strontium _____
- *Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

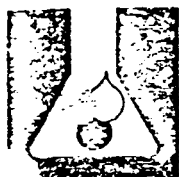
			Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
4	Ca	← HCO ₃	Ca (HCO ₃) ₂	81.04		1		81
2	Mg	← SO ₄	Ca SO ₄	68.07		3		204
68	Na	← Cl	Ca Cl ₂	55.50		-		-
			Mg (HCO ₃) ₂	73.17		1		73
			Mg SO ₄	60.19		1		60
			Mg Cl ₂	47.62		-		-
			Na HCO ₃	84.00		-		-
			Na ₂ SO ₄	71.03		9		639
			Na Cl	58.46		60		3508

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/L

REMARKS _____

Respectfully submitted
TRETOLITE COMPANY



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-9779
SAMPLE TAKEN _____
SAMPLE RECEIVED 7-3-80
RESULTS REPORTED 7-9-80

SAMPLE DESCRIPTION _____ FIELD NO. _____
COMPANY Shell Oil Company LEASE _____ WELL NO. 2-27/B5
FIELD _____ COUNTY _____ STATE _____
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY Larry Jones

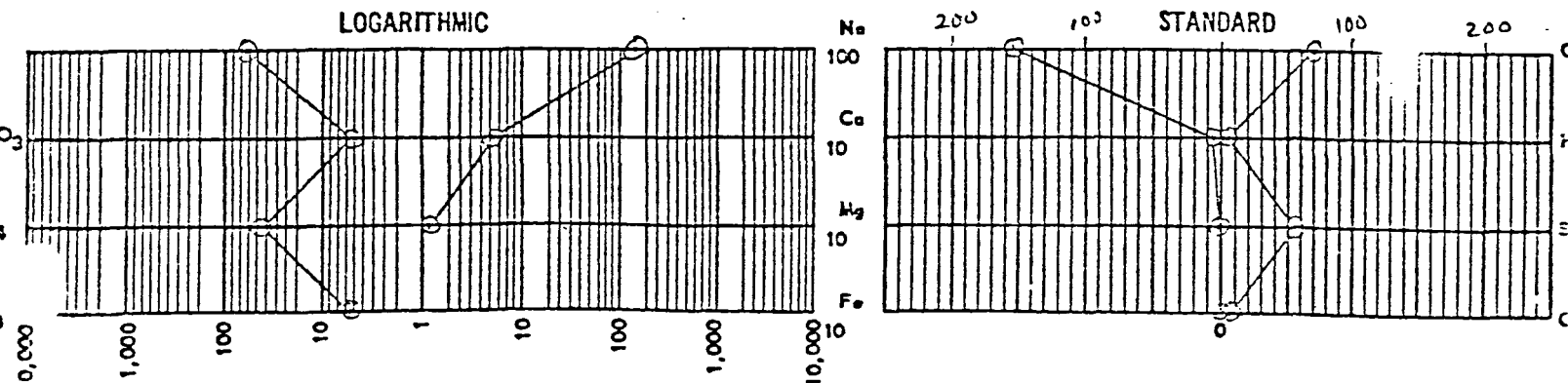
CHEMICAL AND PHYSICAL PROPERTIES

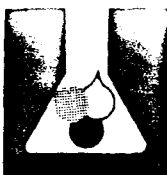
SPECIFIC GRAVITY @60/60° F. 1.0054 pH 8.75 RES. 0.88 OHM METERS @ 77°F

TOTAL HARDNESS 383 mg/L as CaCO₃ TOTAL ALKALINITY 934 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	129	6.44		
MAGNESIUM - Mg ++	14.6	1.20		
SODIUM - Na +	3570	155.22		
BARIUM (INCL. STRONTIUM) - Ba ++	0.2	.00		
TOTAL IRON - Fe ++ AND Fe +++	0.2	.01	162.87	
BICARBONATE - HCO ₃ --	376	6.17		
CARBONATE - CO ₃ --	190.2	6.34		
SULFATE - SO ₄ --	2620	54.55		
CHLORIDE - CL -	2,550	71.91	138.97	
TOTAL DISSOLVED SOLIDS	9,600.0			

MILLEQUIVALENTS PER LITER





LITE RESEARCH LABORATORIES

P.O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER N-5741
SAMPLE TAKEN 11-27-78
SAMPLE RECEIVED 11-29-78
RESULTS REPORTED 11-30-78

SAMPLE DESCRIPTION

COMPANY Shell Oil Company LEASE _____ FIELD NO. _____
FIELD Altamont COUNTY _____ STATE Utah WELL NO. 1-2586
25-25-6W
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY Chuck Thompson

CHEMICAL AND PHYSICAL PROPERTIES

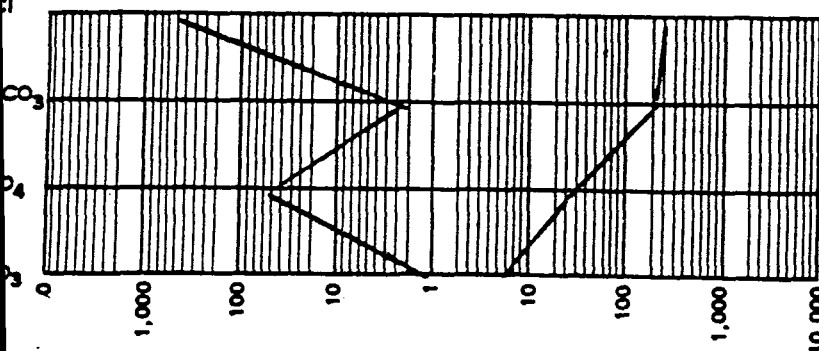
SPECIFIC GRAVITY @60/60° F. 1.0258 pH 6.05 RES. 0.250 OHM METERS @ 77° F

TOTAL HARDNESS 14686.6 mg/L as CaCO₃ TOTAL ALKALINITY 280.00 mg/L as CaCO₃

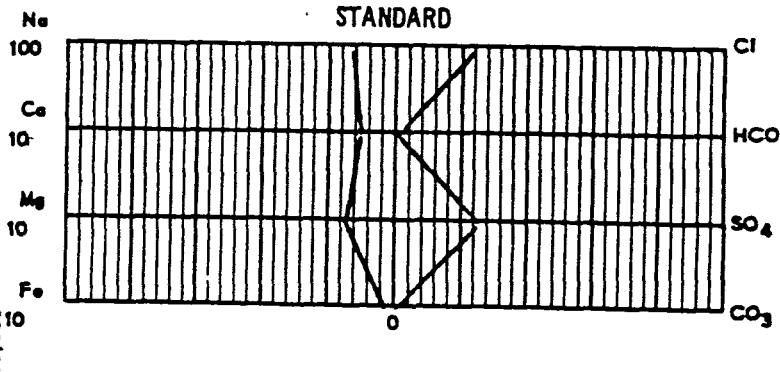
CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	5000.0	250.00		
MAGNESIUM - Mg ++	450.0	36.89		
SODIUM - Na +	7400.0	321.74		
BARIUM (INCL. STRONTIUM) - Ba ++	1.0	0.01		
TOTAL IRON - Fe ++ AND Fe +++	195.0	6.96	681.2	
BICARBONATE - HCO ₃ -	170.8	2.80		
CARBONATE - CO ₃ --	0.0	0.0		
SULFATE - SO ₄ --	3,150.0	65.62		
CHLORIDE - CL -	21,742.4	612.46	680.9	
TOTAL DISSOLVED SOLIDS	43,960.0			

MILLEQUIVALENTS PER LITER

LOGARITHMIC

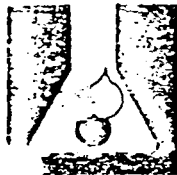


STANDARD



ANALYST _____

CHECKED _____



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-9779
SAMPLE TAKEN _____
SAMPLE RECEIVED 7-3-80
RESULTS REPORTED 7-9-80

SAMPLE DESCRIPTION _____ FIELD NO. _____
COMPANY Shell Oil Company LEASE _____ WELL NO. 2-27B5
FIELD _____ COUNTY _____ STATE _____
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY Larry Jones

CHEMICAL AND PHYSICAL PROPERTIES

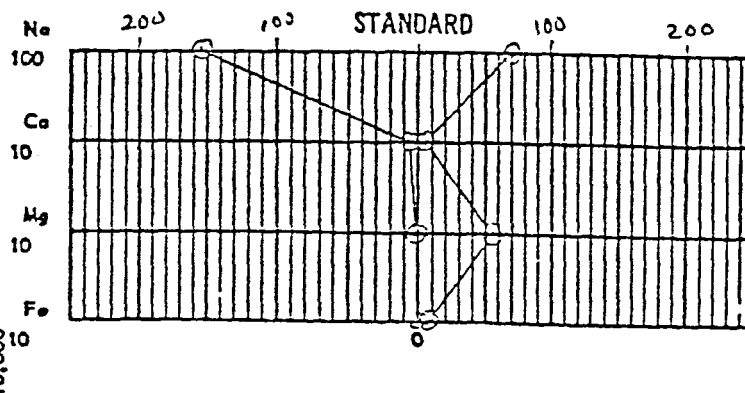
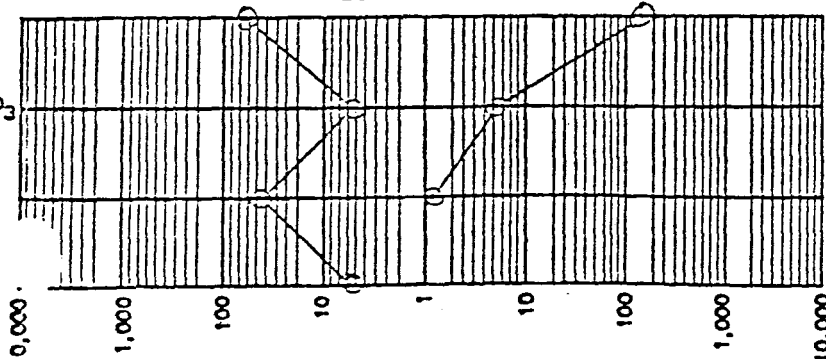
SPECIFIC GRAVITY @60/60° F. 1.0054 pH 8.75 RES. 0.88 OHM METERS @ 77°F.

TOTAL HARDNESS 383 mg/L as CaCO₃ TOTAL ALKALINITY 934 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L.	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	129	6.44		
MAGNESIUM - Mg ++	14.6	1.20		
SODIUM - Na +	3570	155.22		
BARIUM (INCL. STRONTIUM) - Ba ++	0.2	.00		
TOTAL IRON - Fe ++ AND Fe +++	0.2	.01	162.87	
BICARBONATE - HCO ₃ -	376	6.17		
CARBONATE - CO ₃ --	190.2	6.34		
SULFATE - SO ₄ --	2620	54.55		
CHLORIDE - CL -	2,550	71.91	138.97	
TOTAL DISSOLVED SOLIDS	9,600.0			

MILLEQUIVALENTS PER LITER

LOGARITHMIC



ANALYST _____

SHELL OIL COMPANY
PRODUCTION LABORATORY WATER ANALYSIS REPORT
DENVER, COLORADO

SEC. 2 T. 35 R. 7

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO

LABORATORY NUMBER 10270-5

SAMPLE TAKEN _____

SAMPLE RECEIVED 2-11-72

RESULTS REPORTED 2-14-72

TO: _____

SAMPLE DESCRIPTION

COMPANY SHELL OIL CO. LEASE RUST FIELD NO. _____ WELL NO. 1-4B3

SEC. 4 TWP. 2S RGE. 3W SUR. _____

DISTRICT _____ FIELD ALTAMONT COUNTY DUCHESE STATE UTAH

SAMPLE TAKEN FROM _____

PRODUCING FORMATION GREEN RIVER TOP _____

REMARKS

Well complete on Dec. 7, 1971 SAMPLE TAKEN BY _____

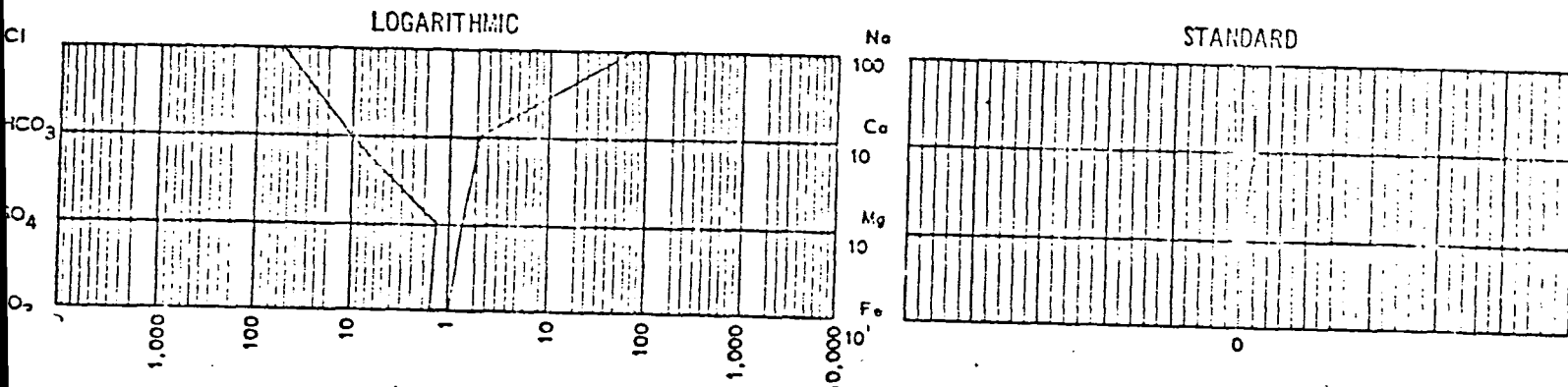
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @ 60/60° F. 1.002 pH 8.2 RES. 1.19 OHM METERS @ 77° F

TOTAL HARDNESS Mg/L as CaCO₃ 195 TOTAL ALKALINITY Mg/L as CaCO₃ 580

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	45	2.25	
MAGNESIUM - Mg ++	20	1.64	
SODIUM - Na +	1716	74.63	
BARIUM (INCL. STRONTIUM) - Ba ++			
TOTAL IRON - Fe ++ AND Fe +++			
BICARBONATE - HCO ₃ -	610	10.00	
CARBONATE - CO ₃ --	48	1.60	
SULFATE - SO ₄ --	72	1.50	
CHLORIDE - CL -	2320	65.42	
TOTAL DISSOLVED SOLIDS	4521	157.04	

← MILLEQUIVALENTS PER LITER →



- () AREA OFFICE () DISTRICT OFFICE
() EXPLORATION MANAGER () DISTRICT GEOLOGIST
() DIVISION OFFICE () SHELL DEVELOPMENT - EPR
() DIVISION EXPL. MANAGER

ANALYST E. H.

CHECKED _____

SHELL OIL COMPANY
PRODUCTION LABORATORY WATER ANALYSIS REPORT
DENVER, COLORADO

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO

LABORATORY NUMBER 10181-4

SAMPLE TAKEN 11-10-71

SAMPLE RECEIVED 12-1-71

RESULTS REPORTED 12-6-71

TO: _____

SAMPLE DESCRIPTION

COMPANY SHELL OIL LEASE RUST FIELD NO. _____
SEC. 4 TWP. 2S RGE. 3W SUR. _____ WELL NO. kust
DISTRICT _____ FIELD Altamont COUNTY _____ STATE Utah
1-4B3

SAMPLE TAKEN FROM _____

PRODUCING FORMATION _____ TOP _____

REMARKS Acid Treatment on Nov. 17, 1971 Sample after opening
Well complete on Dec. 7, 1971 some new zones
SAMPLE TAKEN BY _____

CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.031 pH 8.1 RES. 0.15 OHM METERS @ 77°F

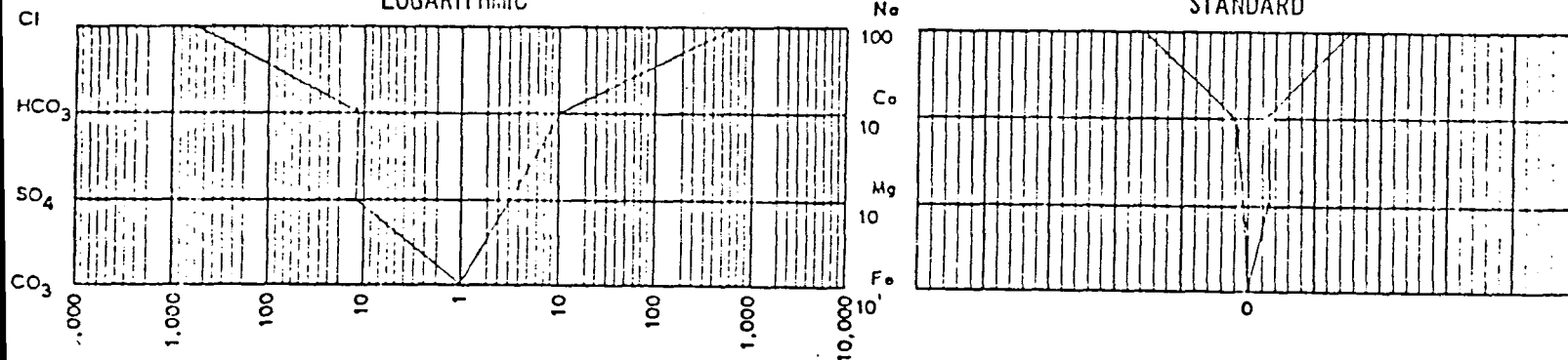
TOTAL HARDNESS Mg/L as CaCO₃ 707 TOTAL ALKALINITY Mg/L as CaCO₃ 599

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	201	10.03	
MAGNESIUM - Mg ++	50	4.11	
SODIUM - Na +	17,232	749.55	
BARIUM (INCL. STRONTIUM) - Ba ++	0	0	
TOTAL IRON - Fe ++ AND Fe +++	0	0	
BICARBONATE - HCO ₃ -	730	11.97	
CARBONATE - CO ₃ --	0	0	
SULFATE - SO ₄ --	619	12.88	
CHLORIDE - CL -	26,200	738.84	
TOTAL DISSOLVED SOLIDS	44,661	1,527.38	

MILLEQUIVALENTS PER LITER

LOGARITHMIC

STANDARD



- () AREA OFFICE () DISTRICT OFFICE
() EXPLORATION MANAGER () DISTRICT GEOLOGIST
() DIVISION OFFICE () SHELL DEVELOPMENT - EPR
() DIVISION EXPL. MANAGER

ANALYST _____

CHECKED _____

TO: R. R. TAYLOR - BAKERSFIELD

DATE: MAY 25, 1970

FROM: LOS ANGELES PRODUCTION LABORATORY

SUBJECT: WATER ANALYSIS

Copies To: San Joaquin Div. Files

E. B. Greene - Bakersfield

B. Afouju - Bakersfield

REFERENCE: Requested by R. R. Taylor, May 1, 1970

DESCRIPTION OF SAMPLE

COMPANY: Shell

DIVISION: San Joaquin

FIELD OR AREA: N. Uinta

WELL: Miles #1

STATE: Utah

COUNTY: NR

SEC.T.R.: NR

DATE OF SAMPLING: 5-1-70

BY: NR

DATE ANALYZED: 5-12-70.

BY: J. P. Chiaravalloti

SAMPLE TAKEN FROM: Treater Water - ("plastic can")

RESULTS OF ANALYSIS

Constituents ("complete" analysis)

PPM

Meq./Liter

Carbonate	CO ₃	0
Bicarbonate	HCO ₃	415
Chloride	Cl	99
Sulfate	SO ₄	296
Barium	Ba	0
Calcium	Ca	34
Magnesium	Mg	5
Sodium and Potassium	NaK	314

Constituents (specially requested)

Boron	B	ND
Silica	SiO ₂	ND
Sulfide	S	ND
Ammonium	NH ₄	ND
Iron	Fe	142.5

Total dissolved solids (by addition)	1,306
Total dissolved solids (105°C)	1,272
Salinity (NaCl)	164
Total Hardness (CaCO ₃)	104

Resistivity (ohmmeters at 80 °F) 6.45
PH 8.30

Analyzed by: QFC

Approved by: C. F. Blum

REMARKS: Sample had brown tint to it - not removed by filtration.

MAY 27 70

SHELL OIL COMPANY
PRODUCTION LABORATORY WATER ANALYSIS REPORT
DENVER, COLORADO

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO

LABORATORY NUMBER 10181-2
SAMPLE TAKEN 11-10-71
SAMPLE RECEIVED 12-1-71
RESULTS REPORTED 12-6-71

TO: _____

SAMPLE DESCRIPTION

COMPANY SHELL OIL CO. LEASE MILES FIELD NO. _____
SEC. 35 TWP. 13 RGE. 4 W SUR. _____ WELL NO. Miles
DISTRICT _____ FIELD Altamont COUNTY _____ STATE Utah
1-35A4

SAMPLE TAKEN FROM _____

PRODUCING FORMATION _____ TOP _____

REMARKS

From Treater Prior To Hot Water Treatment

Well complete on May 10, 1970 SAMPLE TAKEN BY _____

CHEMICAL AND PHYSICAL PROPERTIES

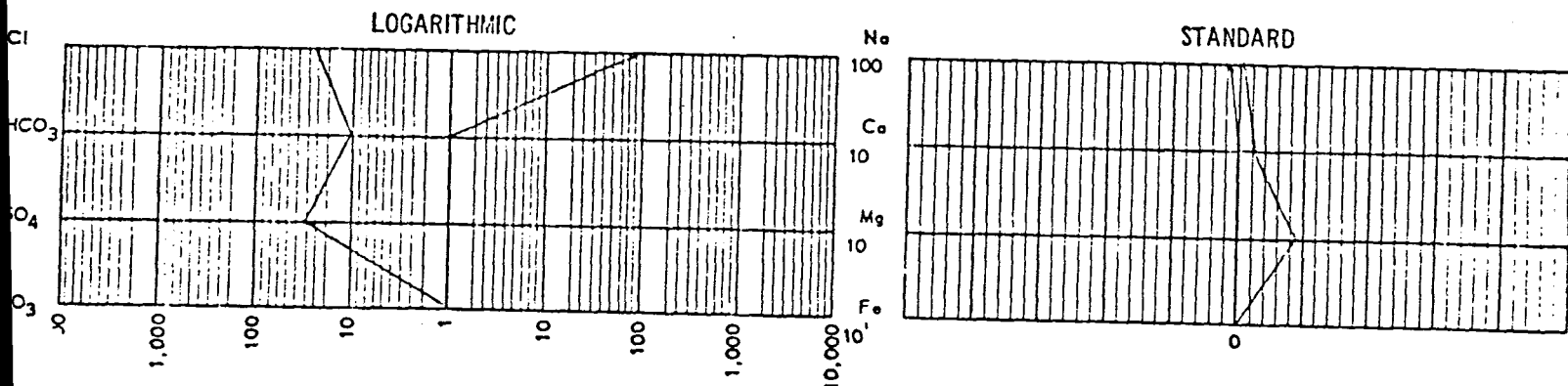
SPECIFIC GRAVITY @ 60/60° F. 1.005 pH 8.2 RES. 1.17 OHM METERS @ 77° F

TOTAL HARDNESS Mg/L as CaCO₃ 54

TOTAL ALKALINITY Mg/L as CaCO₃ 582

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	15	0.75	
MAGNESIUM - Mg ++	4	0.33	
SODIUM - Na +	1,994	86.75	
BARIUM (INCL. STRONTIUM) - Ba ++	0	0	
TOTAL IRON - Fe ++ AND Fe +++	0	0	
BICARBONATE - HCO ₃ -	710	11.64	
CARBONATE - CO ₃ --	0	0	
SULFATE - SO ₄ --	2,104	43.76	
CHLORIDE - CL -	1,150	32.43	
TOTAL DISSOLVED SOLIDS	5,617	175.66	

MILLEQUIVALENTS PER LITER



- () AREA OFFICE () DISTRICT OFFICE
() EXPLORATION MANAGER () DISTRICT GEOLOGIST
() DIVISION OFFICE () SHELL DEVELOPMENT - EPR
() DIVISION EXPL. MANAGER

ANALYST _____

CHECKED _____

PO BOX 648 - ROOSEVELT, UTAH 84066

James F. Smith

WATER ANALYSIS REPORT

(801) 722-2532

COMPANY _____ ADDRESS _____ DATE _____

SOURCE 1-34 A4 DATE SAMPLED 3/83 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. PH	<u>8.10</u>				
2. H ₂ S (Qualitative)					
3. Specific Gravity	<u>1.007</u>				
4. Dissolved Solids		<u>4847.56</u>			
5. Suspended Solids					
6. Phenolphthalein Alkalinity (CaCO ₃)		<u>0</u>			
7. Methyl Orange Alkalinity (CaCO ₃)		<u>750</u>			
8. Bicarbonate (HCO ₃)		<u>915</u>	+ 61	<u>15.00</u>	HCO ₃
9. Chlorides (Cl)		<u>2038</u>	- 35.5	<u>57.41</u>	Cl
10. Sulfates (SO ₄)		<u>269</u>	+ 48	<u>5.60</u>	SO ₄
11. Calcium (Ca)		<u>898</u>	+ 20	<u>44.90</u>	Ca
12. Magnesium (Mg)		<u>37.67</u>	+ 12.2	<u>3.09</u>	Mg
13. Total Hardness (CaCO ₃)		<u>2400</u>			
14. Total Iron (Fe)		<u>.50</u>			
15. Barium (Qualitative)					
16. Conductivity		mmHos <u>11500</u>		ppm <u>91655</u>	
*Milli equivalents per liter		<u>.087</u> RWC <u>23</u>			

PROBABLE MINERAL COMPOSITION

Ca	←	HCO ₃		Compound	Equiv. Wt. X	Meq/L	=	Mg/L
<u>44.90</u>			<u>15.00</u>	Ca (HCO ₃) ₂	81.04	<u>15.00</u>		<u>1215.60</u>
Mg	→	SO ₄	<u>5.60</u>	Ca SO ₄	68.07	<u>5.60</u>		<u>381.19</u>
<u>3.09</u>			<u>57.41</u>	Ca Cl ₂	55.50	<u>24.30</u>		<u>1346.65</u>
Na	←	Cl		Mg (HCO ₃) ₂	73.17	<u>0</u>		<u>0</u>
<u>30.02</u>				Mg SO ₄	60.19	<u>0</u>		<u>0</u>
				Mg Cl ₂	47.62	<u>3.09</u>		<u>147.15</u>
				Na HCO ₃	84.00	<u>0</u>		<u>0</u>
				Na ₂ SO ₄	71.03	<u>0</u>		<u>0</u>
				Na Cl	58.46	<u>30.02</u>		<u>1754.91</u>

Saturation Values

Ca CO₃

Ca SO₄ · 2H₂O

Mg CO₃

Distilled Water 20°C

13 Mg/L

2.090 Mg/L

103 Mg/L

Remarks _____

NA = 468.01 mg/L

H₂S = 1.0 ppm

Thank you for the business



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER 810737

SAMPLE TAKEN

SAMPLE RECEIVED 6-30-81

RESULTS REPORTED 7-13-81

SAMPLE DESCRIPTION

COMPANY Shell Oil Co.

LEASE

FIELD NO.

WELL NO. 2-27B5

FIELD COUNTY STATE

SAMPLE TAKEN FROM

PRODUCING FORMATION TOP

REMARKS

SAMPLE TAKEN BY

CHEMICAL AND PHYSICAL PROPERTIES

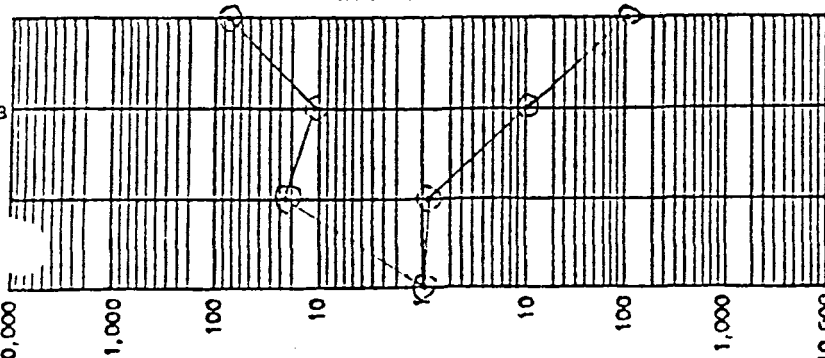
SPECIFIC GRAVITY @60/60° F. 1.0064 pH 8.11 RES. 0.86 OHM METERS @ 77°F

TOTAL HARDNESS 597 mg/L as CaCO₃ TOTAL ALKALINITY 1110 mg/L as CaCO₃

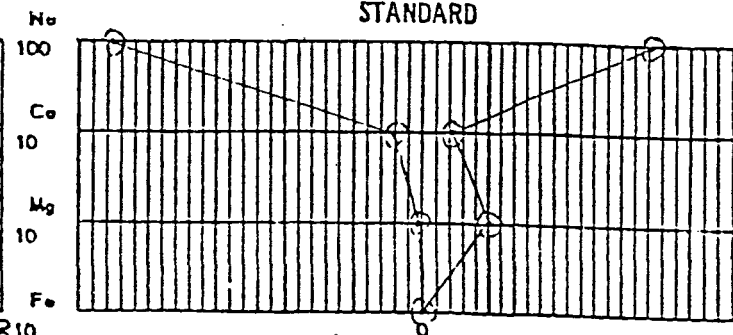
CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	203.	10.13	
MAGNESIUM - Mg ++	21.8	1.79	
SODIUM - Na +	2610	113.48	
K+	32.1	0.82	
BARIUM (INCL. STRONTIUM) - Ba ++	0.2	0.003	
TOTAL IRON - Fe ++ AND Fe +++	0.08	0.003	
BICARBONATE - HCO ₃ --	677.	11.10	
CARBONATE - CO ₃ --	0	0	
SULFATE - SO ₄ --	1230	25.61	
CHLORIDE - CL -	3050	86.01	
TOTAL DISSOLVED SOLIDS	7120		

← MILLEQUIVALENTS PER LITER →

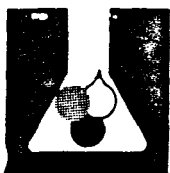
LOGARITHMIC



STANDARD



ANALYST



② Milan
③ Files

LITE RESEARCH LABORATORIES

P.O. Box 119

Fort Duchesne, Utah 84026

(801) 722-2257

LABORATORY NUMBER W-4905
SAMPLE TAKEN _____
SAMPLE RECEIVED 1-30-78
RESULTS REPORTED 2-1-78

15-210-32

SAMPLE DESCRIPTION

FIELD NO. _____

COMPANY Shell Oil Company

LEASE _____

FIELD Bluebell

COUNTY _____

STATE Utah

WELL NO. 35A3

SAMPLE TAKEN FROM Well Head

PRODUCING FORMATION _____

TOP _____

REMARKS

Emulsion Sample

SAMPLE TAKEN BY Bon Navanick

CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @ 60/60° F. 1.0066 pH 8.16 RES. 0.890 OHM METERS @ 77° F

TOTAL HARDNESS 1039.7

mg/L as CaCO₃

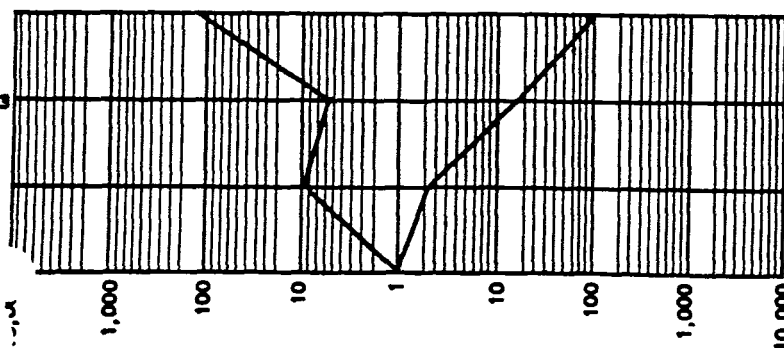
TOTAL ALKALINITY 678.00

mg/L as CaCO₃

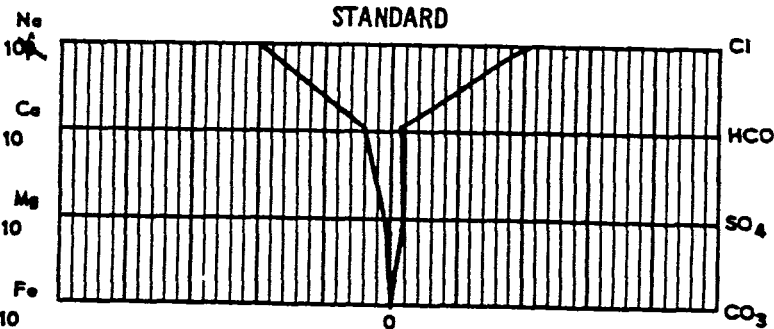
CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	370.0	18.50		
MAGNESIUM - Mg ++	28.0	2.30		
SODIUM - Na +	2300.0	100.00		
BARIUM (INCL. STRONTIUM) - Ba ++	4.0	0.06		
TOTAL IRON - Fe ++ AND Fe +++	0.3	0.01	120.9	
BICARBONATE - HCO ₃ -	413.7	6.78		
CARBONATE - CO ₃ --	0.0	0.00		
SULFATE - SO ₄ --	470.0	9.79		
CHLORIDE - CL -	3699.3	104.21	120.8	
TOTAL DISSOLVED SOLIDS	7,960.0			

MILLEQUIVALENTS PER LITER

LOGARITHMIC

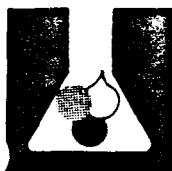


STANDARD



ANALYST _____

CHECKED _____



WATER

T-25 R. 6W Sec. 21

LITE RESEARCH LABORATORIES

P.O. Box 119

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-4927
SAMPLE TAKEN _____
SAMPLE RECEIVED 2-16-78
RESULTS REPORTED 2-22-78

SAMPLE DESCRIPTION
COMPANY Shell Oil Company LEASE _____ FIELD NO. _____
FIELD ALTAMONT COUNTY _____ STATE _____ WELL NO. 1-21B6
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY Bon Navanick

CHEMICAL AND PHYSICAL PROPERTIES

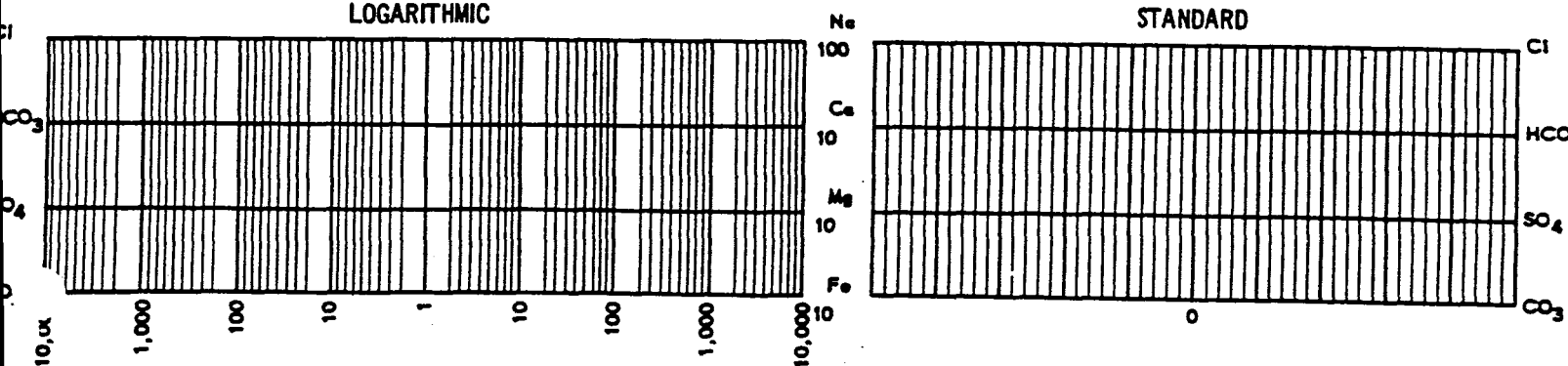
SPECIFIC GRAVITY @60/60° F. 1.0070 pH 7.10 RES. 0.64 OHM METERS @ 77°FTOTAL HARDNESS 333.2 mg/L as CaCO₃ TOTAL ALKALINITY 1,216.00 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	90.0	4.50		
MAGNESIUM - Mg ++	26.0	2.13		
SODIUM - Na +	3,500.0	152.17		
BARIUM (INCL. STRONTIUM) - Ba ++	0.00	0.00		
TOTAL IRON - Fe ++ AND Fe +++	0.8	0.03	158.83	
BICARBONATE - HCO ₃ ⁻	742.0	12.16		
CARBONATE - CO ₃ ⁼⁼	0	0.00		
SULFATE - SO ₄ ⁼⁼	610.0	12.71		
CHLORIDE - CL ⁻	4773.1	134.45	159.3	
TOTAL DISSOLVED SOLIDS	10,200.0			

← MILLEQUIVALENTS PER LITER →

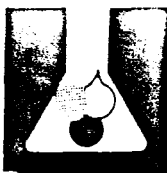
LOGARITHMIC

STANDARD



ANALYST _____

CHECKED _____



LITE RESEARCH LABORATORIES

P.O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-5799
SAMPLE TAKEN 12-22-78
SAMPLE RECEIVED 12-27-78
RESULTS REPORTED 12-28-78

SAMPLE DESCRIPTION
COMPANY Shell Oil Company LEASE FIELD NO.
FIELD Altamont COUNTY STATE Utah WELL NO. 2-27B5
27-2S-5W
SAMPLE TAKEN FROM
PRODUCING FORMATION TOP
REMARKS

SAMPLE TAKEN BY Ron Navanick

CHEMICAL AND PHYSICAL PROPERTIES

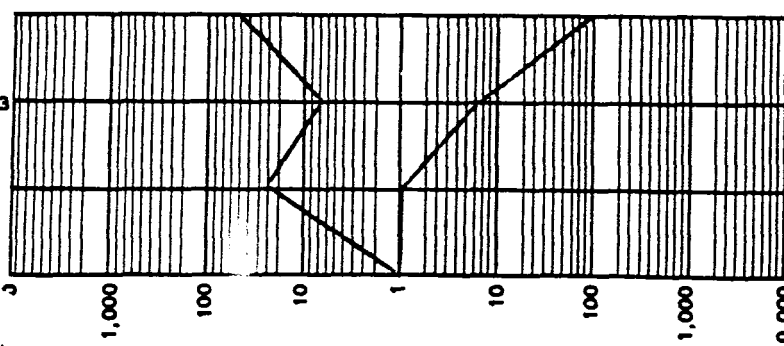
SPECIFIC GRAVITY @60/60° F. 1.0047 pH 8.11 RES. 1.12 OHM METERS @ 77° F

TOTAL HARDNESS 411.3 mg/L as CaCO₃ TOTAL ALKALINITY 786.00 mg/L as CaCO₃

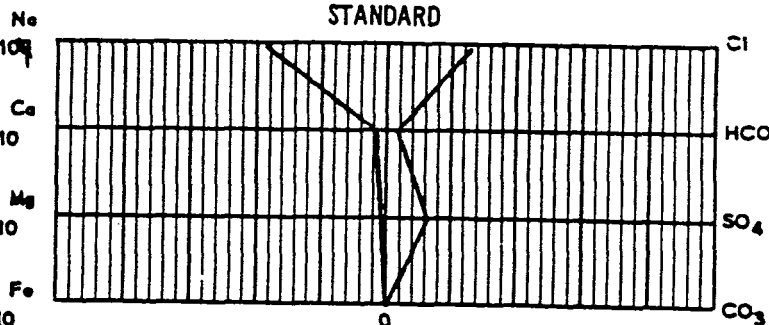
CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	147.0	7.35		
MAGNESIUM - Mg ++	10.0	0.82		
SODIUM - Na +	2270.0	98.70		
BARIUM (INCL. STRONTIUM) - Ba ++	0.8	0.01		
TOTAL IRON - Fe ++ AND Fe +++	1.7	0.06	106.9	
BICARBONATE - HCO ₃ -	479.6	7.86		
CARBONATE - CO ₃ --	0.0	0.0		
SULFATE - SO ₄ --	1,570.0	32.71		
CHLORIDE - CL -	2373.9	66.87	107.4	
TOTAL DISSOLVED SOLIDS	6,900.0			

← MILLEQUIVALENTS PER LITER →

LOGARITHMIC

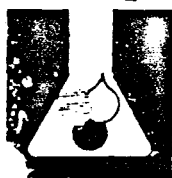


STANDARD



ANALYST

CHECKED



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-9048
SAMPLE TAKEN
SAMPLE RECEIVED 3-4-80
RESULTS REPORTED 3-11-80

SAMPLE DESCRIPTION
COMPANY Shell Oil Company LEASE FIELD NO.
FIELD COUNTY STATE SWD WELL NO. 2-27B5
SAMPLE TAKEN FROM
PRODUCING FORMATION TOP
REMARKS

SAMPLE ^{submitted} TAKEN BY Ron Navanick

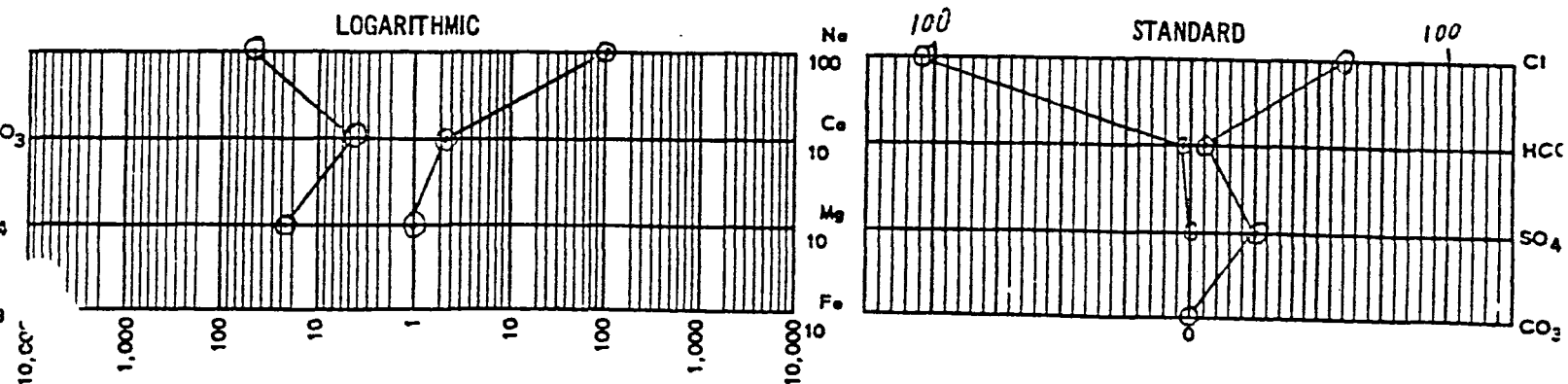
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.0005 pH 7.5 RES. 1.44 OHM METERS @ 77°F

TOTAL HARDNESS 153 mg/L as CaCO₃ TOTAL ALKALINITY 540. mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	51	2.54		
MAGNESIUM - Mg ++	6.2	.51		
SODIUM - Na +	2400	104.35		
BARIUM (INCL. STRONTIUM) - Ba ++	0.0	.00		
TOTAL IRON - Fe ++ AND Fe +++	0.3	.01	107.41	
BICARBONATE - HCO ₃ -	329	5.40		
CARBONATE - CO ₃ --				
SULFATE - SO ₄ --	1,220.0	25.41		
CHLORIDE - CL -	2,147.13	61.31	92.11	
TOTAL DISSOLVED SOLIDS	6,100.0			

MILLEQUIVALENTS PER LITER



ANALYST



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-10221
SAMPLE TAKEN _____
SAMPLE RECEIVED 10-8-80
RESULTS REPORTED 10-21-80

SAMPLE DESCRIPTION
COMPANY Shell Oil Co. LEASE _____ FIELD NO. _____
FIELD _____ COUNTY _____ STATE _____ WELL NO. 11-B5
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY _____

CHEMICAL AND PHYSICAL PROPERTIES

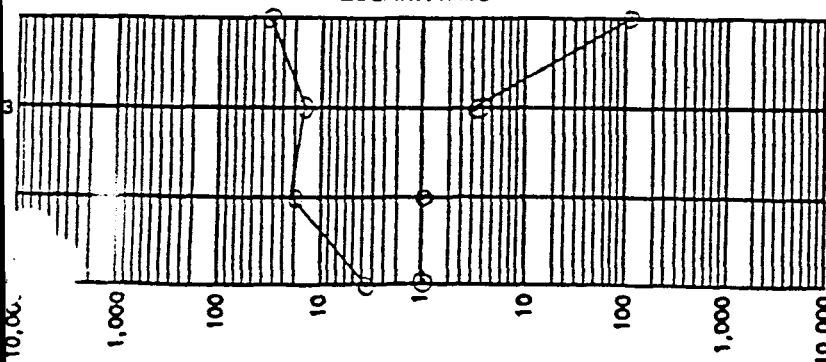
SPECIFIC GRAVITY @60/60° F. 1.0071 pH 8.81 RES. 1.35 OHM METERS @ 77°F

TOTAL HARDNESS 251 mg/L as CaCO₃ TOTAL ALKALINITY 1857 mg/L as CaCO₃

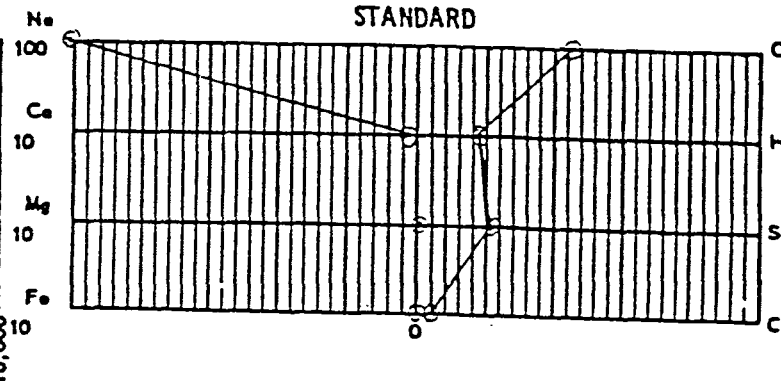
CONSTITUENT	MILLIGRAMS PER LITER mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	86	4.29	
MAGNESIUM - Mg ++	8.7	.72	
SODIUM - Na +	2370	103.04	
BARIUM (INCL. STRONTIUM) - Ba ++	0	0	
TOTAL IRON - Fe ++ AND Fe +++	.17	0	
BICARBONATE - HCO ₃ -	987	16.18	
CARBONATE - CO ₃ --	143	4.78	
SULFATE - SO ₄ --	1030	21.44	
CHLORIDE - CL -	1600	45.12	
TOTAL DISSOLVED SOLIDS	660		

MILLEQUIVALENTS PER LITER

LOGARITHMIC



STANDARD



ANALYST _____



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-10222
SAMPLE TAKEN _____
SAMPLE RECEIVED 10-8-80
RESULTS REPORTED 10-21-80

SAMPLE DESCRIPTION _____ FIELD NO. _____
COMPANY Shell Oil Co. LEASE _____ WELL NO. 2-27B5
FIELD _____ COUNTY _____ STATE _____
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY _____

CHEMICAL AND PHYSICAL PROPERTIES

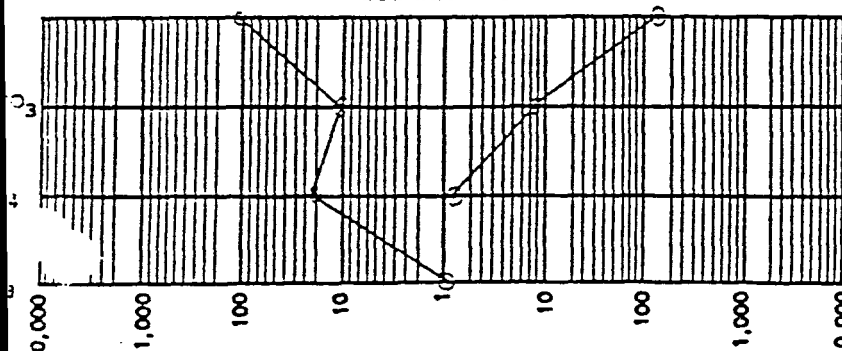
SPECIFIC GRAVITY @60/60° F. 1.0065 pH 8.08 RES. 1.77 OHM METERS @ 77° F

TOTAL HARDNESS 507 mg/L as CaCO₃ TOTAL ALKALINITY 1063 mg/L as CaCO₃

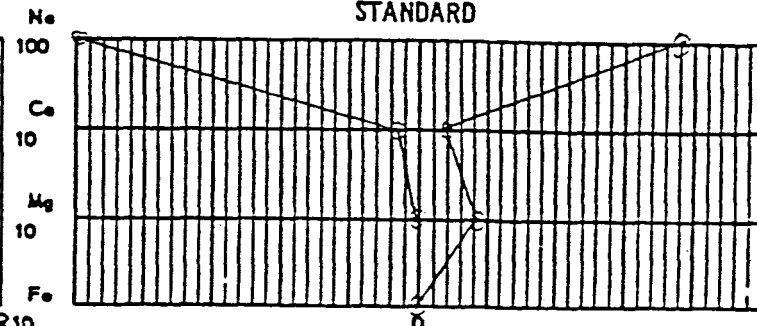
CONSTITUENT	MILLIGRAMS PER LITER mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	177	8.83	
MAGNESIUM - Mg ++	15.8	1.30	
SODIUM - Na +	3440	149.57	
BARIUM (INCL. STRONTIUM) - Ba ++	0	0	
TOTAL IRON - Fe ++ AND Fe +++	0.23	.01	
BICARBONATE - HCO ₃ --	648	10.63	
CARBONATE - CO ₃ --	0	0	
SULFATE - SO ₄ --	1130	23.53	
CHLORIDE - CL -	4000	112.80	
TOTAL DISSOLVED SOLIDS	980		

← MILLEQUIVALENTS PER LITER →

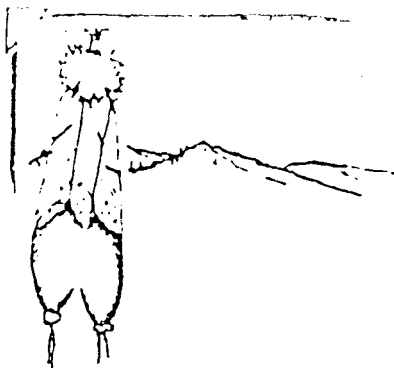
LOGARITHMIC



STANDARD



ANALYST _____



LITE RESEARCH LABORATORY

P. O. Box 266

Fort Duchesne, Utah 84026

(631) 7.

Company Shell Oil Company

Date 6-22-82

Sample Name 2-27 B5 6-7-82

Our Laboratory Number 820311

CHEMICAL AND PHYSICAL PROPERTIES

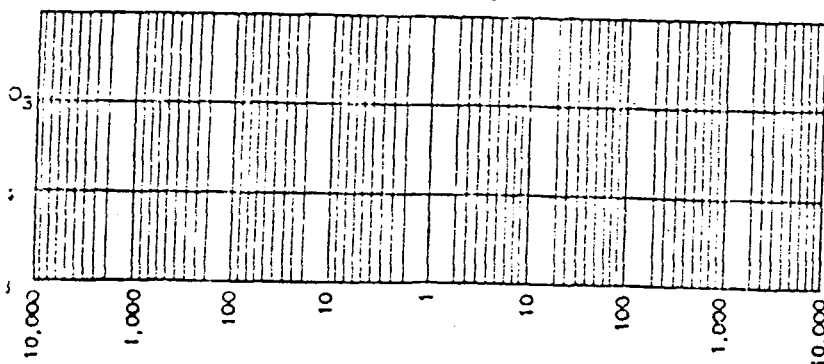
SPECIFIC GRAVITY @60/60° F. .9969 pH 8.25 RES. .31408 OHM METERS @ 77°F

TOTAL HARDNESS 105. mg/L as CaCO₃ TOTAL ALKALINITY 1,394. mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	52.9	2.64	
MAGNESIUM - Mg ++	5.6	0.46	
SODIUM - Na +	3,480.	151.37	
POTASSIUM - K +	21.	0.54	
BARIUM (INCL. STRONTIUM) - Ba ++	2.1	0.03	
TOTAL IRON - Fe ++ AND Fe +++	1.7	0.06	
BICARBONATE - HCO ₃ -	850.44	13.94	
CARBONATE - CO ₃ --	0.00	0.00	
SULFATE - SO ₄ --	1,530.	31.85	
CHLORIDE - CL -	2,530.	71.35	
TOTAL DISSOLVED SOLIDS	6,480.		

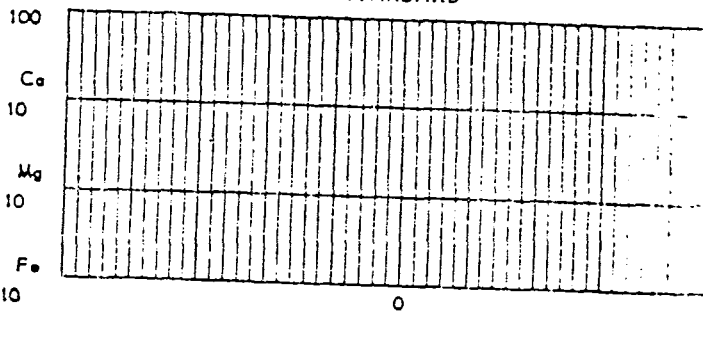
MILLEQUIVALENTS PER LITER

LOGARITHMIC



Na

STANDARD





LITE RESEARCH LABORATORIES

P.O. Box 119

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-745
SAMPLE TAKEN _____
SAMPLE RECEIVED 5-6-74
RESULTS REPORTED 5-29-74

Water
22-28-5W

SAMPLE DESCRIPTION

COMPANY Shell Oil Co. LEASE Ute FIELD NO. Old
FIELD _____ COUNTY _____ STATE _____ WELL NO. 22B5
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY _____

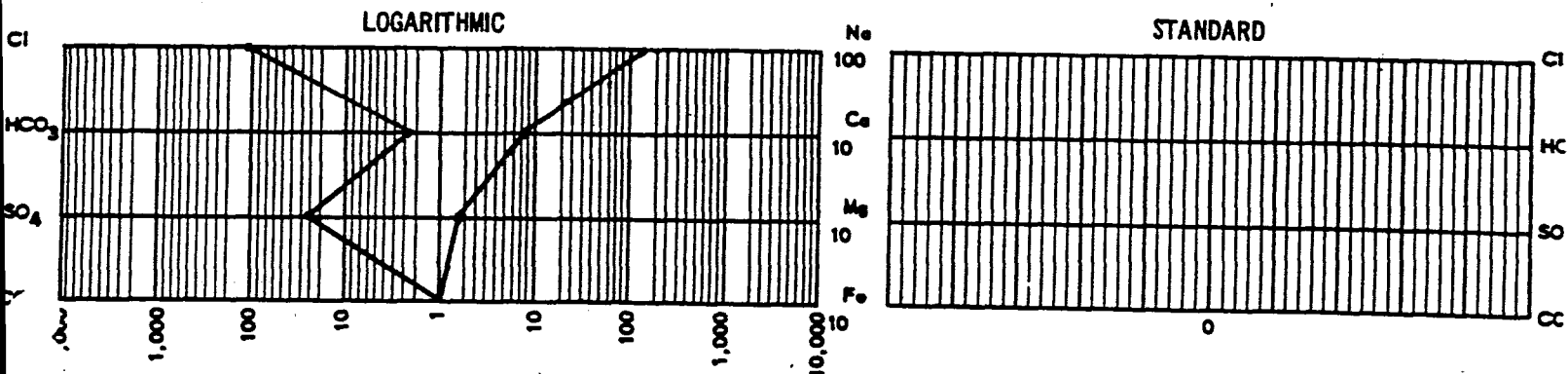
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. _____ pH 8.2 RES. _____ OHM METERS @ 77°F

TOTAL HARDNESS Mg/L as CaCO₃ 524.0 TOTAL ALKALINITY Mg/L as CaCO₃ 172.4

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	175.0	8.8		
MAGNESIUM - Mg ++	21.3	1.7		
SODIUM - Na +	3421	148.7	159.2	
Phosphate	.430			
BARIUM (INCL. STRONTIUM) - Ba ++				
TOTAL IRON - Fe ++ AND Fe +++				
BICARBONATE - HCO ₃ -	172.4	2.8		
CARBONATE - CO ₃ --	0			
SULFATE - SO ₄ --	1640	34.1		
CHLORIDE - CL -	4339	122.4	159.3	
TOTAL DISSOLVED SOLIDS				

MILLEQUIVALENTS PER LITER



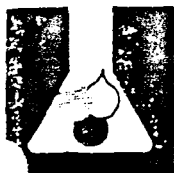
RECEIVED

JUN 4 1974

WESTERN REGION
FEB 1974

ANALYST _____

CHECKED _____



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-9779
SAMPLE TAKEN _____
SAMPLE RECEIVED 7-3-80
RESULTS REPORTED 7-9-80

SAMPLE DESCRIPTION
COMPANY Shell Oil Company LEASE _____ FIELD NO. _____
FIELD _____ COUNTY _____ STATE _____ WELL NO. 2-27B5
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY Larry Jones

CHEMICAL AND PHYSICAL PROPERTIES

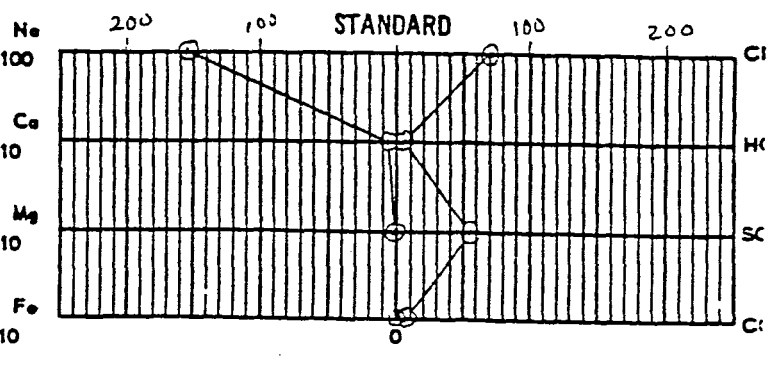
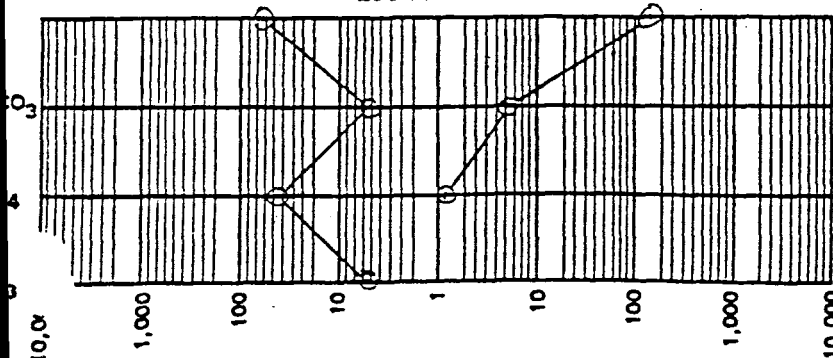
SPECIFIC GRAVITY @60/60° F. 1.0054 pH 8.75 RES. 0.88 OHM METERS @ 77°F

TOTAL HARDNESS 383 mg/L as CaCO₃ TOTAL ALKALINITY 934 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	129	6.44		
MAGNESIUM - Mg ++	14.6	1.20		
SODIUM - Na +	3570	155.22		
BARIUM (INCL. STRONTIUM) - Ba ++	0.2	.00		
TOTAL IRON - Fe ++ AND Fe +++	0.2	.01	162.87	
BICARBONATE - HCO ₃ -	376	6.17		
CARBONATE - CO ₃ --	190.2	6.34		
SULFATE - SO ₄ --	2620	54.55		
CHLORIDE - CL -	2,550	71.91	138.97	
TOTAL DISSOLVED SOLIDS	9,600.0			

MILLEQUIVALENTS PER LITER

LOGARITHMIC



ANALYST _____

CHECKED _____

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

OPERATOR	Shell Oil Company	DATE	March 19, 1974	LAB NO.	12215-4
WELL NO.	J-12E5	LOCATION	Sec. 12-2S-5W		
FIELD	Altamont	FORMATION	Wasatch		
COUNTY	Duchesne	INTERVAL			
STATE	Utah	SAMPLE FROM	Treater (2-11-74)		

REMARKS & CONCLUSIONS: Cloudy water

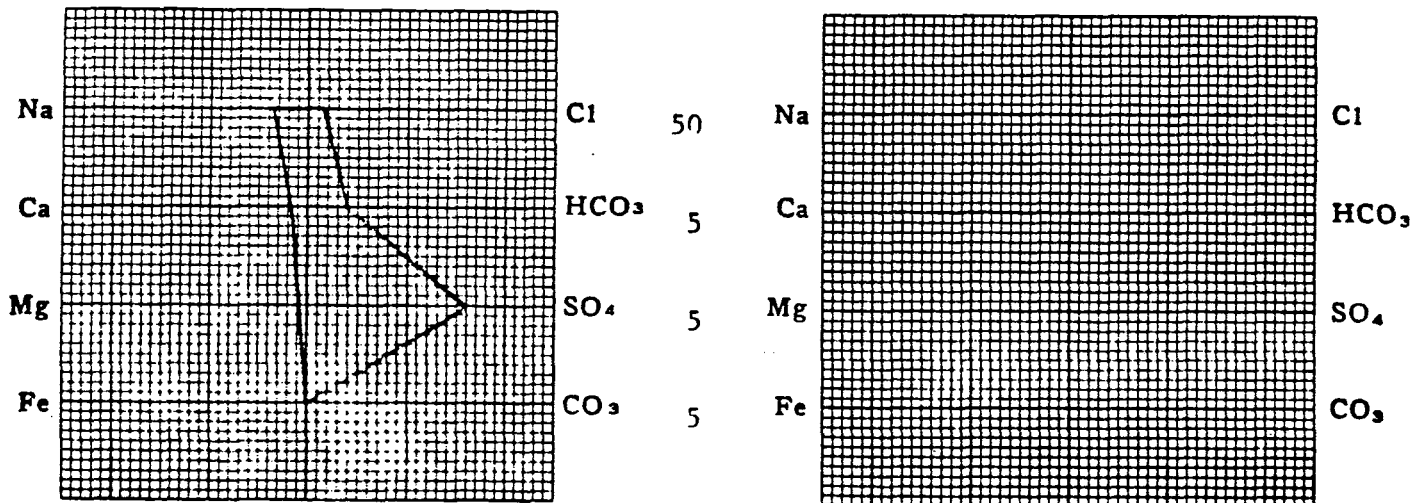
Specific gravity @ 60°F ---- 1.010

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	3006	173.81	Sulfate	3800	79.04
Potassium	80	2.05	Chloride	3050	86.01
Lithium	-	-	Carbonate	0	-
Calcium	169	8.43	Bicarbonate	1293	21.21
Magnesium	24	1.07	Hydroxide	-	-
Iron	-	-	Hydrogen sulfide	-	-
Total Cations		186.26	Total Anions		186.26
Total dissolved solids, mg/l			Specific resistance @ 77°F: 77°F		
			Observed		
NaCl equivalent, mg/l			Calculated		
Observed pH					

WATER ANALYSIS PATTERN

Sample above described

Scale
MEQ per Unit



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter

Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components

PO BOX 1111 - 100 SEVEN DAY DRIVE

James F. Smith

WATER ANALYSIS REPORT

(801) 722-2532

COMPANY _____ ADDRESS _____ DATE _____
 SOURCE 1-27 B5 DATESAMPLED 3/83 ANALYSIS NO _____

Analysis

1. PH 8.5
2. H₂S (Qualitative) _____
3. Specific Gravity 1.004
4. Dissolved Solids 7849.04
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) 125
7. Methyl Orange Alkalinity (CaCO₃) 1850
8. Bicarbonate (HCO₃) 2257
9. Chlorides (Cl) 2831
10. Sulfates (SO₄) 103
11. Calcium (Ca) 449
12. Magnesium (Mg) 9.11
13. Total Hardness (CaCO₃) 1160
14. Total Iron (Fe) 1.2
15. Barium (Qualitative) _____
16. Conductivity (mmHos) 13400

Mg/L _____ Meq/L _____
 HCO₃ 2257 ÷ 61 = 37.00 HCO₃ /
 Cl 2831 ÷ 35.5 = 79.75 Cl /
 SO₄ 103 ÷ 48 = 2.16 SO₄ /
 Ca 449 ÷ 20 = 22.45 Ca /
 Mg 9.11 ÷ 12.2 = 0.75 Mg /

mmHos 13400 ppm 106798
 °C 23°

PROBABLE MINERAL COMPOSITION

Ca	←	HCO ₃	37.00
Mg	→	SO ₄	2.16
Na	→	Cl	79.75

22.45
 0.75
 95.71

118.91

Saturation Values Distilled Water 20°C
 Ca CO₃ 13 Mg/L
 Ca SO₄ · 2H₂O 2.090 Mg/L
 Mg CO₃ 103 Mg/L

Compound	Equiv. Wt. X	Meq/L	Mg/L
Ca (HCO ₃) ₂	81.04	22.45	1819.35
Ca SO ₄	68.07	0	0
Ca Cl ₂	55.50	0	0
Mg (HCO ₃) ₂	73.17	0.75	54.88
Mg SO ₄	60.19	0	0
Mg Cl ₂	47.62	0	0
Na HCO ₃	84.00	13.80	1159.20
Na ₂ SO ₄	71.03	2.16	153.42
Na Cl	58.46	79.75	4662.19

Remarks: Na = 1492 mg/L
H₂S = 5.5 ppm

James F. Smith

WATER ANALYSIS REPORT

(801) 722-2532

COMPANY _____ ADDRESS _____ DATE _____
 SOURCE 1-10 B5 DATE SAMPLED 3/83 ANALYSIS NO. _____

Analysis

1. PH 8.4
2. H₂S (Qualitative) _____
3. Specific Gravity 1.001
4. Dissolved Solids 4404.18
5. Suspended Solids _____
6. Phenolphthalein Alkalinity (CaCO₃) 25
7. Methyl Orange Alkalinity (CaCO₃) 575
8. Bicarbonate (HCO₃) _____
9. Chlorides (Cl) _____
10. Sulfates (SO₄) _____
11. Calcium (Ca) _____
12. Magnesium (Mg) _____
13. Total Hardness (CaCO₃) 1400
14. Total Iron (Fe) 0.7
15. Barium (Qualitative) _____

	Mg/L		Meq/L	
HCO ₃	<u>701.5</u>	÷ 61	<u>11.50</u>	HCO ₃
Cl	<u>1759</u>	÷ 35.5	<u>49.55</u>	Cl <u>28.</u>
SO ₄	<u>434</u>	÷ 48	<u>9.04</u>	SO ₄ <u>38.</u>
Ca	<u>625</u>	÷ 20	<u>31.25</u>	Ca <u>49</u>
Mg	<u>9.11</u>	÷ 12.2	<u>0.75</u>	Mg <u>10</u>

16. Conductivity (mmHos) 11700 ppm 93249
 *Milli equivalents per liter .086 RWC 23° C

PROBABLE MINERAL COMPOSITION

Ca	←	HCO ₃	
<u>31.25</u>	→		<u>11.50</u>
Mg	→	SO ₄	
<u>0.75</u>	→		<u>9.04</u>
Na	←	Cl	
<u>38.09</u>	→		<u>49.55</u>

70.09

Saturation Values

Ca CO ₃	Distilled Water 20°C
Ca SO ₄ · 2H ₂ O	13 Mg/L
Mg CO ₃	2.090 Mg/L
	103 Mg/L

Remarks: Na = 593.82 mg/L

H₂S = 1.5 ppm

Compound	Equiv. WL X	Meq/L	Mg/L
Ca (HCO ₃) ₂	81.04	<u>11.50</u>	<u>931.96</u>
Ca SO ₄	68.07	<u>9.04</u>	<u>615.35</u>
Ca Cl ₂	55.50	<u>10.71</u>	<u>594.41</u>
Mg (HCO ₃) ₂	73.17	<u>0</u>	<u>0</u>
Mg SO ₄	60.19	<u>0</u>	<u>0</u>
Mg Cl ₂	47.62	<u>0.75</u>	<u>35.72</u>
Na HCO ₃	84.00	<u>0</u>	<u>0</u>
Na ₂ SO ₄	71.03	<u>0</u>	<u>0</u>
Na Cl	58.46	<u>38.09</u>	<u>2226.79</u>

Thank you for the business

SHELL OIL COMPANY

PRODUCTION LABORATORY WATER ANALYSIS REPORT

DENVER, COLORADO

RKY MTN DIV PRODUCTION FILES

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO

LABORATORY NUMBER 5050-2SAMPLE TAKEN January 11, 1971SAMPLE RECEIVED January 29, 1971RESULTS REPORTED February 1, 1971

TO: _____

SAMPLE DESCRIPTION

COMPANY Shell Oil Co.LEASE Brotherson

FIELD NO. _____

WELL NO. 1-14B-4SEC. 14 TWP. 2S RGE. 4W SUR. _____DISTRICT _____ FIELD _____ COUNTY Duchesne STATE Utah

SAMPLE TAKEN FROM _____

PRODUCING FORMATION _____ TOP _____

REMARKS Pumping 1/11/71Pumped 5.43 BD & 472 BWSAMPLE TAKEN BY J.M. Manning

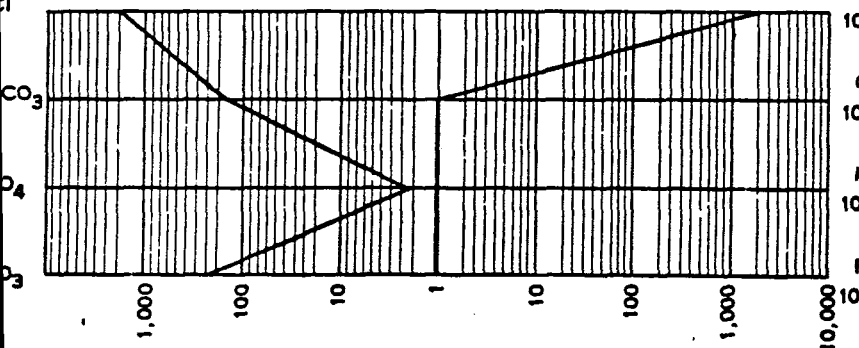
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.096 pH 9.1 RES. 0.082 OHM METERS @ 77°FTOTAL HARDNESS Mg/L as CaCO₃ 10TOTAL ALKALINITY Mg/L as CaCO₃ 20,790

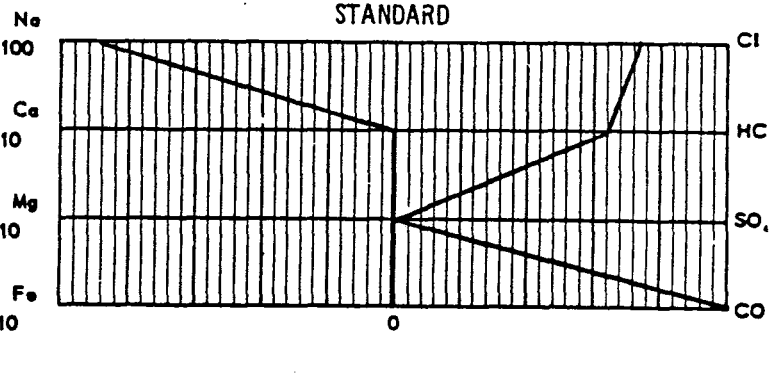
CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	4	0.20	
MAGNESIUM - Mg ++	0	-	
SODIUM - Na +	52,391	2279.02	
BARIUM (INCL. STRONTIUM) - Ba ++	0	-	
TOTAL IRON - Fe ++ AND Fe +++	Absent	-	
BICARBONATE - HCO ₃ --	9760	160.06	
CARBONATE - CO ₃ --	7680	255.74	
SULFATE - SO ₄ --	107	2.22	
CHLORIDE - CL -	66,000	1861.20	
TOTAL DISSOLVED SOLIDS	135,942	4558.44	

MILLEQUIVALENTS PER LITER

LOGARITHMIC



STANDARD



() AREA OFFICE () DISTRICT OFFICE
 () EXPLORATION MANAGER () DISTRICT GEOLOGIST
 () DIVISION OFFICE () SHELL DEVELOPMENT - EPR
 () DIVISION EXPL. MANAGER

ANALYST C. McMillanCHECKED C.E. Davis

Utah

SHELL OIL COMPANY
PRODUCTION LABORATORY WATER ANALYSIS REPORT
DENVER, COLORADO

SEC. 18 T. 2 R. 4

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO -

LABORATORY NUMBER 10270-1
SAMPLE TAKEN 2-7-72
SAMPLE RECEIVED 2-11-72
RESULTS REPORTED 2-14-72

TO: _____

SAMPLE DESCRIPTION

COMPANY _____ LEASE BLEAZARD FIELD NO. _____
SEC. 18 TWP. 25 RGE. 4 SUR. _____ WELL NO. 1-18B4
DISTRICT _____ FIELD ALTAMONT COUNTY DUCHESSNE STATE UTAH
SAMPLE TAKEN FROM _____
PRODUCING FORMATION GREEN RIVER TOP _____
REMARKS _____

Well complete on Sept. 20, 1971 SAMPLE TAKEN BY _____

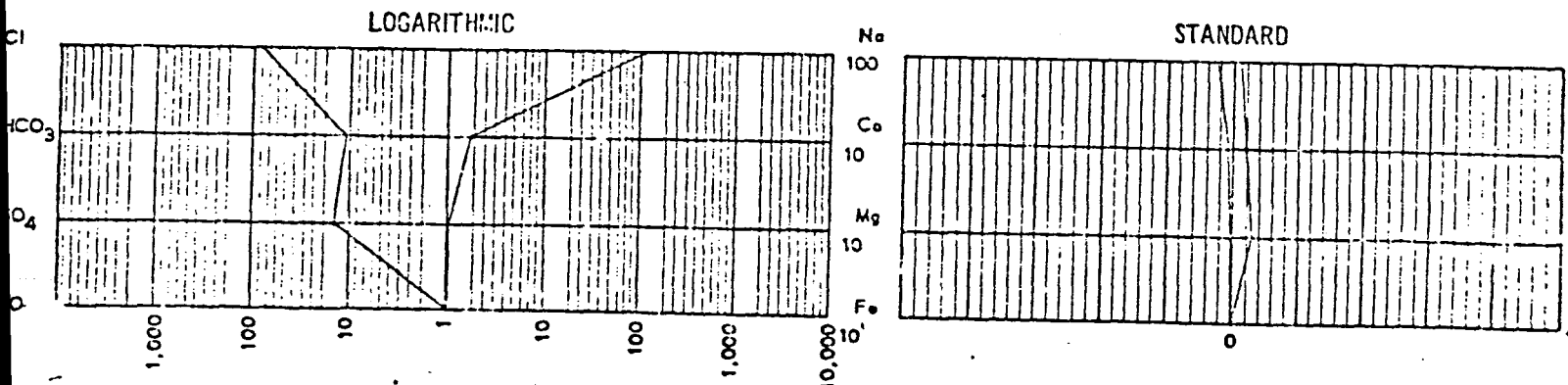
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @ 60/60° F. 1.004 pH 8.6 RES. 0.87 OHM METERS @ 77° F

TOTAL HARDNESS Mg/L as CaCO₃ 143 TOTAL ALKALINITY Mg/L as CaCO₃ 590

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	39	1.95	
MAGNESIUM - Mg ++	18	0.90	
SODIUM - Na +	2578	112.15	
BARIUM (INCL. STRONTIUM) - Ba ++			
TOTAL IRON - Fe ++ AND Fe +++			
BICARBONATE - HCO ₃ ⁻	670	10.99	
CARBONATE - CO ₃ ⁻⁻	24	0.80	
SULFATE - SO ₄ ⁻⁻	759	15.79	
CHLORIDE - CL ⁻	3100	87.42	
TOTAL DISSOLVED SOLIDS	6848	230.00	

← MILLEQUIVALENTS PER LITER →



- () AREA OFFICE
() EXPLORATION MANAGER
() DIVISION OFFICE
() DIVISION EXPL. MANAGER
- () DISTRICT OFFICE
() DISTRICT GEOLOGIST
() SHELL DEVELOPMENT - EPR

ANALYST E. H.

CHECKED _____

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

OPERATOR Shell Oil Company DATE March 19, 1974 LAB NO. 12215-7
 WELL NO. 1-2234 LOCATION Sec. 22-2S-4W
 FIELD Altamont FORMATION Wasatch
 COUNTY Duchesne INTERVAL _____
 STATE Utah SAMPLE FROM Treater (2-11-74)

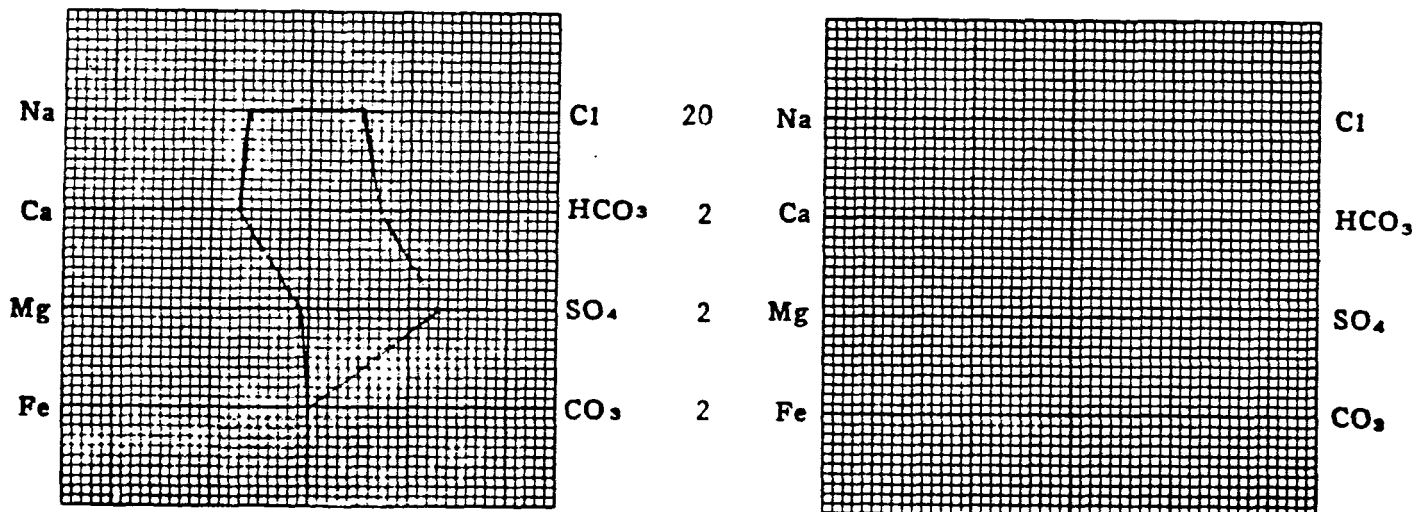
REMARKS & CONCLUSIONS: Cloudy water

Specific gravity @ 60°F ----- 1.008

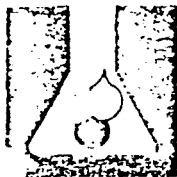
Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	2870	124.86	Sulfate	1250	26.00
Potassium	60	1.54	Chloride	3650	102.93
Lithium	-	-	Carbonate	0	-
Calcium	284	14.17	Bicarbonate	830	13.61
Magnesium	24	1.97	Hydroxide	-	-
Iron	-	-	Hydrogen sulfide	-	-
Total Cations		142.54	Total Anions		142.54
Total dissolved solids, mg/l ----- 8547			Specific resistance @ 77°F: 77°F		
NaCl equivalent, mg/l ----- 7747			Observed	0.82	ohm-meters
Observed pH ----- 8.0			Calculated	0.85	ohm-meters

WATER ANALYSIS PATTERN

Sample above described Scale
MEQ per Unit



(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter
 Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components



LITE RESEARCH LABORATORIES

P. O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-9779
SAMPLE TAKEN _____
SAMPLE RECEIVED 7-3-80
RESULTS REPORTED 7-9-80

SAMPLE DESCRIPTION _____ FIELD NO. _____
COMPANY Shell Oil Company LEASE _____ WELL NO. 2-27B5
FIELD _____ COUNTY _____ STATE _____
SAMPLE TAKEN FROM _____
PRODUCING FORMATION _____ TOP _____
REMARKS _____

SAMPLE TAKEN BY Larry Jones

CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.0054 pH 8.75 RES. 0.88 OHM METERS @ 77° F.

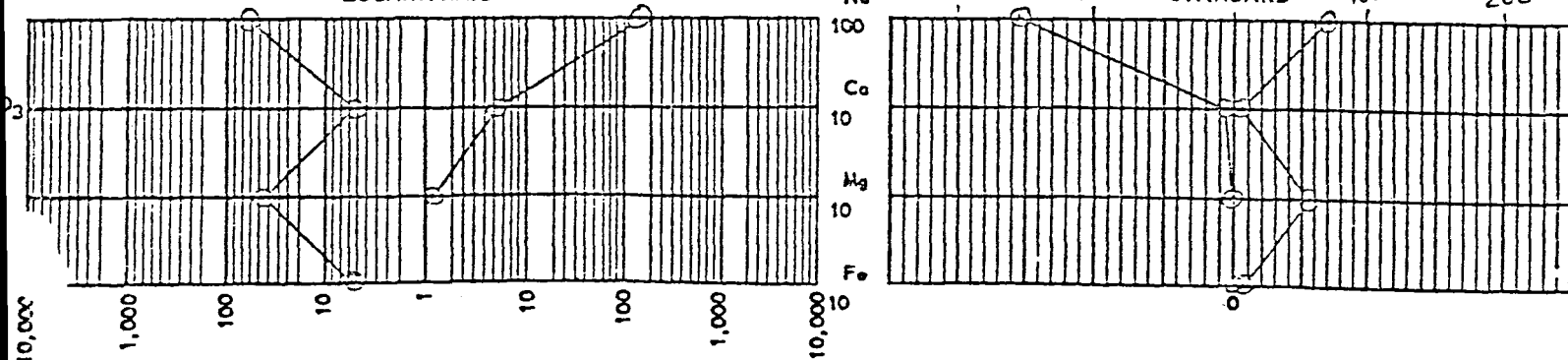
TOTAL HARDNESS 383 mg/L as CaCO₃ TOTAL ALKALINITY 934 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	129	6.44		
MAGNESIUM - Mg ++	14.6	1.20		
SODIUM - Na +	3570	155.22		
BARIUM (INCL. STRONTIUM) - Ba ++	0.2	.00		
TOTAL IRON - Fe ++ AND Fe +++	0.2	.01	162.87	
BICARBONATE - HCO ₃ -	376	6.17		
CARBONATE - CO ₃ --	190.2	6.34		
SULFATE - SO ₄ --	2620	54.55		
CHLORIDE - CL -	2,550	71.91	138.97	
TOTAL DISSOLVED SOLIDS	9,600.0			

MILLEQUIVALENTS PER LITER

LOGARITHMIC

STANDARD



ANALYST _____

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

OPERATOR	Shell Oil Company	DATE	March 19, 1974	LAB NO.	12215-5
WELL NO.	1-13B4	LOCATION	Sec. 13-2S-4W		
FIELD	Altamont	FORMATION	Wasatch		
COUNTY	Duchesne	INTERVAL			
STATE	Utah	SAMPLE FROM	Treater (2-11-74)		

REMARKS & CONCLUSIONS: Cloudy water

Specific gravity @ 60°F ---- 1.007

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	2623	114.08	Sulfate	360	7.49
Potassium	44	1.13	Chloride	3600	101.52
Lithium	-	-	Carbonate	0	-
Calcium	154	7.68	Bicarbonate	952	15.61
Magnesium	21	1.73	Hydroxide	-	-
Iron	-	-	Hydrogen sulfide	-	-
Total Cations		124.62	Total Anions		124.62

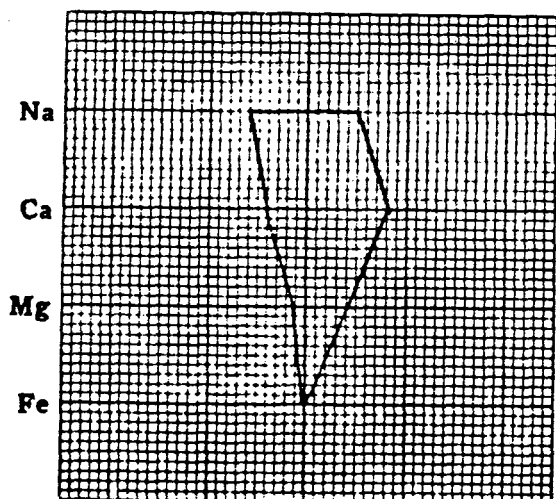
Total dissolved solids, mg/l	7271
NaCl equivalent, mg/l	6391
Observed pH	8.1

Specific resistance @ 77°F:	77°F
Observed	0.92 ohm-meters
Calculated	0.96 ohm-meters

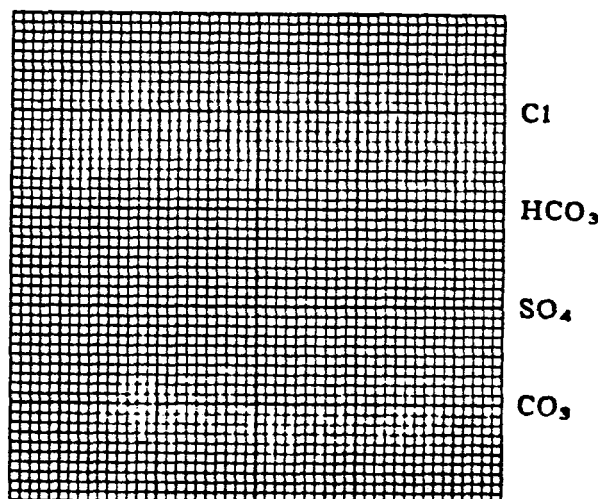
WATER ANALYSIS PATTERN

Sample above described

Scale
MEQ per Unit



Cl	20
HCO ₃	2
SO ₄	2
CO ₃	2



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l = Milligrams per liter Meq/l = Milligram equivalents per liter

Sodium chloride equivalent = by Dunlap & Hawthorne calculation from components

PO BOX 1488 - ROOSEVELT, UTAH 84068

James F. Smith

WATER ANALYSIS REPORT

(801) 722-2532

COMPANY _____ ADDRESS _____ DATE _____
 SOURCE 1-34 A 3 DATE SAMPLED 3/83 ANALYSIS NO. _____

Analysis

Mg/L

*Meq/L

1. PH 8.50

2. H₂S (Qualitative) _____

3. Specific Gravity 1.000

4. Dissolved Solids 5348.58

5. Suspended Solids _____

6. Phenolphthalein Alkalinity (CaCO₃) 50

7. Methyl Orange Alkalinity (CaCO₃) 900

8. Bicarbonate (HCO₃) 1098

9. Chlorides (Cl) 2381

10. Sulfates (SO₄) 89

11. Calcium (Ca) 1235

12. Magnesium (Mg) 37.06

13. Total Hardness (CaCO₃) 3240

14. Total Iron (Fe) 1.7

15. Barium (Qualitative) _____

16. Conductivity (mmHos) 8800

*Milli equivalents per liter

HCO₃ 1098 ÷ 61 18.00 HCO₃
 Cl 2381 ÷ 35.5 67.07 Cl
 SO₄ 89 ÷ 48 1.85 SO₄
 Ca 1235 ÷ 20 61.75 Ca
 Mg 37.06 ÷ 12.2 3.04 Mg

mmHos 8800

ppm 70156

RWC 23

PROBABLE MINERAL COMPOSITION

Ca	←	HCO ₃	
61.75			18.00
Mg	→	SO ₄	
3.04			1.85
Na	←	Cl	
22.13			67.07

Saturation Values

Ca CO₃

Ca SO₄ · 2H₂O

Mg CO₃

Distilled Water 20°C

13 Mg/L

2.090 Mg/L

103 Mg/L

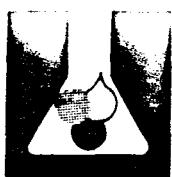
Compound	Equiv. Wt. X	Meq/L	Mg/L
Ca (HCO ₃) ₂	61.04	18.00	1458.72
Ca SO ₄	68.07	1.85	125.93
Ca Cl ₂	55.50	41.90	2325.4
Mg (HCO ₃) ₂	73.17	0	0
Mg SO ₄	60.19	0	0
Mg Cl ₂	47.62	3.04	144.76
Na HCO ₃	84.00	0	0
Na ₂ SO ₄	71.03	0	0
Na Cl	58.46	22.13	1293.72

Remarks: _____

NA = 345 mg/L

H₂S = 0

Thank you for the business



LITE RESEARCH LABORATORIES

P.O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-5754
SAMPLE TAKEN 12-4-78
SAMPLE RECEIVED 12-4-78
RESULTS REPORTED 12-6-78

SAMPLE DESCRIPTION
COMPANY Shell Oil Company LEASE FIELD NO.
FIELD Altamont COUNTY STATE Utah WELL NO. 1-32A3
32-18-3u
SAMPLE TAKEN FROM
PRODUCING FORMATION TOP
REMARKS

SAMPLE TAKEN BY Ronald Navanick

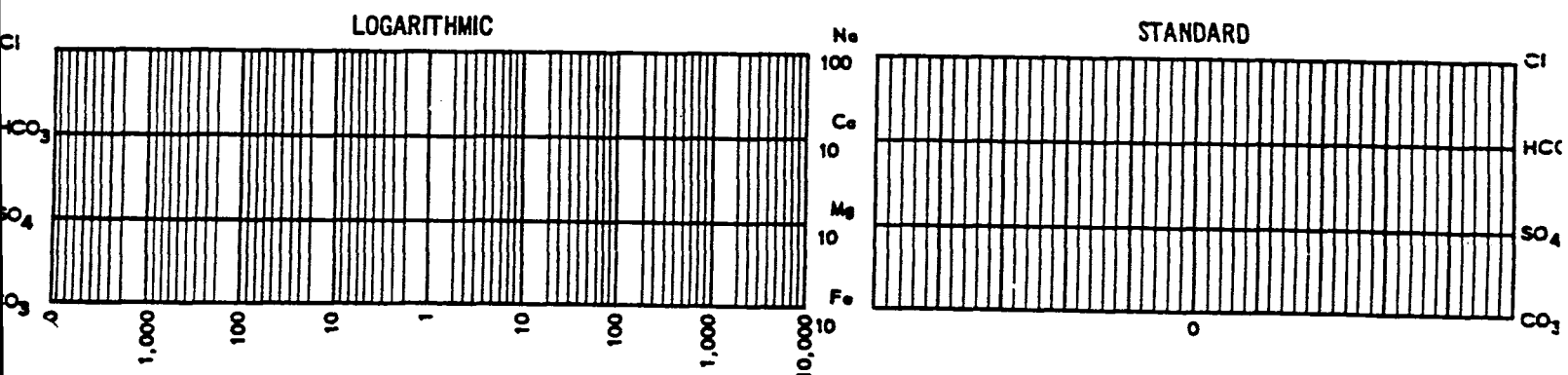
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.0024 pH 8.46 RES. 1.60 OHM METERS @ 77° F

TOTAL HARDNESS 72.4 mg/L as CaCO₃ TOTAL ALKALINITY 937.00 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	18.8	0.94		
MAGNESIUM - Mg ++	6.0	0.49		
SODIUM - Na +	1200.0	52.17		
BARIUM (INCL. STRONTIUM) - Ba ++	0.0	0.0		
TOTAL IRON - Fe ++ AND Fe +++	0.4	0.01	53.6	
BICARBONATE - HCO ₃ -	555.8	9.11		
CARBONATE - CO ₃ --	15.6	0.52		
SULFATE - SO ₄ --	1,090.0	22.71		
CHLORIDE - CL -	754.7	21.26	53.6	
TOTAL DISSOLVED SOLIDS	4080.0			

← MILLEQUIVALENTS PER LITER →



ANALYST

CHECKED

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

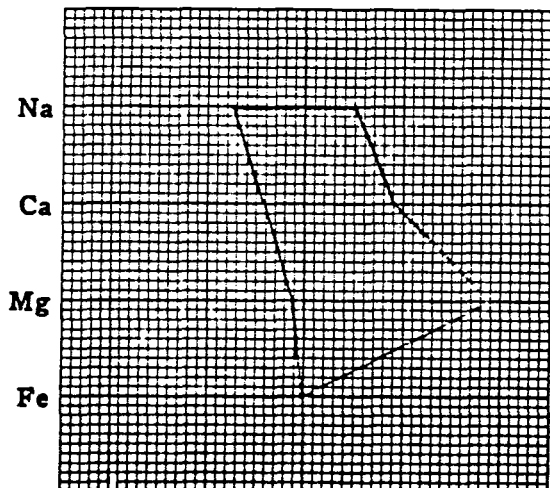
OPERATOR Shell Oil Company DATE April 25, 1973 LAB NO. 10035
 WELL NO. Monsen 1-27-A3 LOCATION Section 27 -1S-3W
 FIELD Altamont FORMATION _____
 COUNTY Duchesne INTERVAL _____
 STATE Utah SAMPLE FROM Heater Treater

REMARKS & CONCLUSIONS: Cloudy water with clear filtrate. Sample taken 9:30 AM.
April 16, 1973.

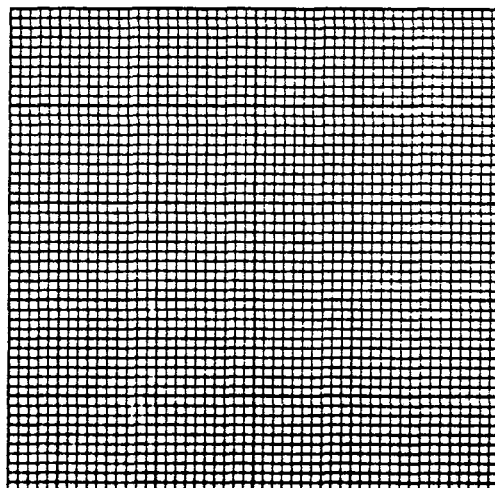
Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	3376	146.84	Sulfate	1850	38.48
Potassium	33	0.84	Chloride	3550	100.11
Lithium	-- /	--	Carbonate	Trace	Trace
Calcium	157	7.83	Bicarbonate	1122	18.40
Magnesium	18	1.48	Hydroxide	--	--
Iron	--	--	Hydrogen sulfide	--	--
Total Cations		156.99	Total Anions		156.99
Total dissolved solids, mg/l			Specific resistance @77°F.:		
			Observed		
NaCl equivalent, mg/l			0.78		
			Calculated		
Observed pH			0.79		
			ohm-meters		
			ohm-meters		

WATER ANALYSIS PATTERN

Sample above described
Scale
MEQ per Unit



Cl 20
HCO₃ 2
SO₄ 2
CO₃ 2



Cl
HCO₃
SO₄
CO₃

(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components

Utah
SEC. 27 T. 15 R. 35



WESTERN E&P REGION
ROCKY MOUNTAIN DIVISION
WATER ANALYSIS REPORT

LABORATORY NUMBER 10841-2
SAMPLE TAKEN _____
SAMPLE RECEIVED 4-05-73
RESULTS REPORTED 4-09-73

SAMPLE DESCRIPTION

COMPANY Shell Oil Company LEASE Doyle FIELD NO. _____
SEC. 10 TWP. 2S RGE. 3W SUR. _____ WELL NO. 1-10B3
DISTRICT _____ FIELD Altamont COUNTY Duchesne STATE Utah
SAMPLE TAKEN FROM Pond, Dark Part
PRODUCING FORMATION _____ TOP _____
REMARKS Excellent for livestock. Minerally suitable for domestic use.

SAMPLE TAKEN BY _____

CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.000 pH 7.4 RES. 11.8 OHM METERS @ 77°F

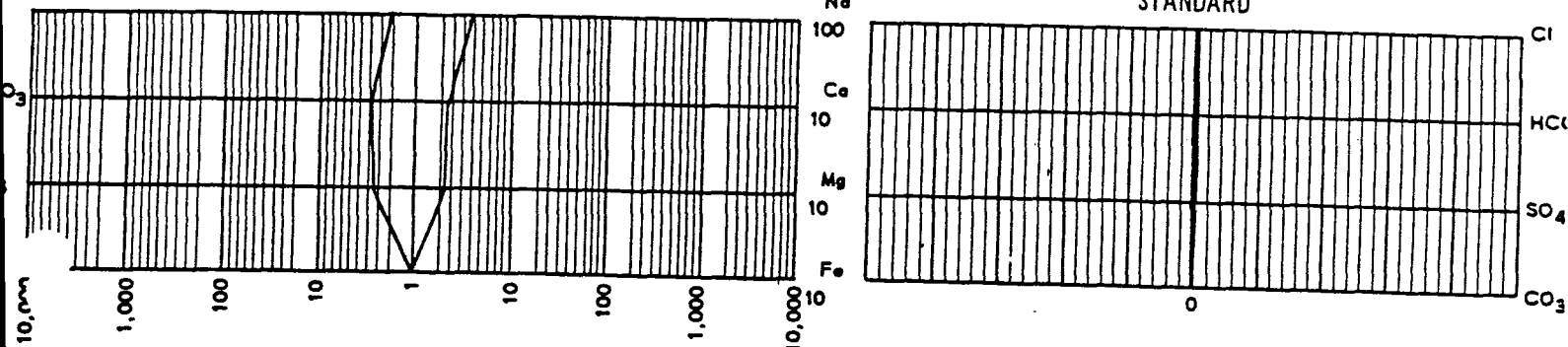
TOTAL HARDNESS Mg/L as CaCO₃ 245 TOTAL ALKALINITY Mg/L as CaCO₃ 196

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	52	2.59	
MAGNESIUM - Mg ++	28	2.30	
SODIUM - Na +	102	4.45	
BARIUM - Ba ++	0.9		
TOTAL IRON - Fe ++ AND Fe +++			
BICARBONATE - HCO ₃ ⁻	239	3.92	
CARBONATE - CO ₃ ⁻⁻	0	-	
SULFATE - SO ₄ ⁻⁻	163	3.39	
CHLORIDE - CL ⁻	72	2.03	167 ppm check
TOTAL DISSOLVED SOLIDS	535	18.68	

MILLEQUIVALENTS PER LITER

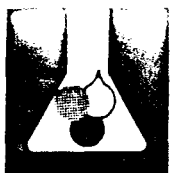
LOGARITHMIC

STANDARD



ANALYST RLB

CHECKED JGY



LITE RESEARCH LABORATORIES

P.O. Box 266

Fort Duchesne, Utah 84026

(801) 722-2254

LABORATORY NUMBER W-5911
SAMPLE TAKEN 1-2-79
SAMPLE RECEIVED 1-3-79
RESULTS REPORTED 1-4-79

SAMPLE DESCRIPTION

COMPANY Shell Oil Company LEASE _____ FIELD NO. _____
FIELD Altament COUNTY _____ STATE Utah WELL NO. 1-3B4
25-16

SAMPLE TAKEN FROM _____

PRODUCING FORMATION _____ TOP _____

REMARKS _____

SAMPLE TAKEN BY Chuck Thompson

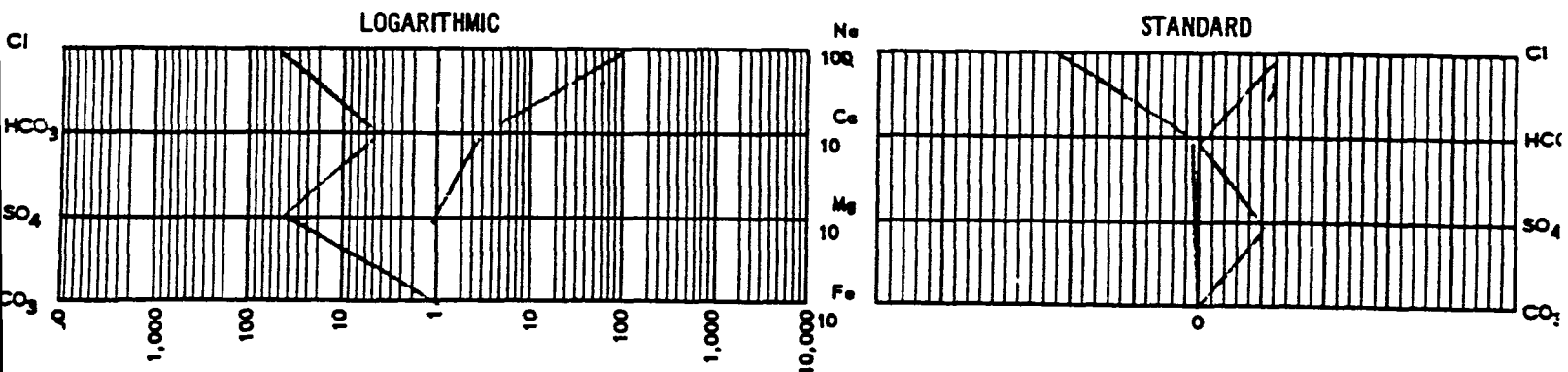
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.0056 pH 7.23 RES. 1.15 OHM METERS @ 77°F

TOTAL HARDNESS 233.6 mg/L as CaCO₃ TOTAL ALKALINITY 536.00 mg/L as CaCO₃

CONSTITUENT	MILLIGRAMS PER LITER mg/L	MILLEQUIVALENTS PER LITER MEQ/L		REMARKS
CALCIUM - Ca ++	81.0	4.05		
MAGNESIUM - Mg ++	7.3	0.60		
SODIUM - Na +	2600.0	113.04		
BARIUM (INCL. STRONTIUM) - Ba ++	0.0	0.0		
TOTAL IRON - Fe ++ AND Fe +++	0.7	0.03	117.7	
BICARBONATE - HCO ₃ -	327.0	5.36		
CARBONATE - CO ₃ --	0	0.0		
SULFATE - SO ₄ --	2,500.0	52.08		
CHLORIDE - CL -	2174.1	61.24	118.7	
TOTAL DISSOLVED SOLIDS	7,200.0			

MILLEQUIVALENTS PER LITER



ANALYST _____

CHECKED _____

Utah

SHELL OIL COMPANY
PRODUCTION LABORATORY WATER ANALYSIS REPORT
DENVER, COLORADO

SEC 2 T 2 S R 41

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO

LABORATORY NUMBER 10270-3

SAMPLE TAKEN _____

SAMPLE RECEIVED 2-11-72

RESULTS REPORTED 2-14-72

TO: _____

SAMPLE DESCRIPTION

COMPANY SHELL OIL LEASE BROTHERSON FIELD NO. _____

SEC. 2 TWP. 2S RGE. 4W SUR. _____

DISTRICT _____ FIELD ALTAMONT COUNTY DUCHESE STATE UTAH

SAMPLE TAKEN FROM _____

PRODUCING FORMATION GREEN RIVER TOP _____

REMARKS

No AT

Well complete on Nov. 8, 1971 SAMPLE TAKEN BY _____

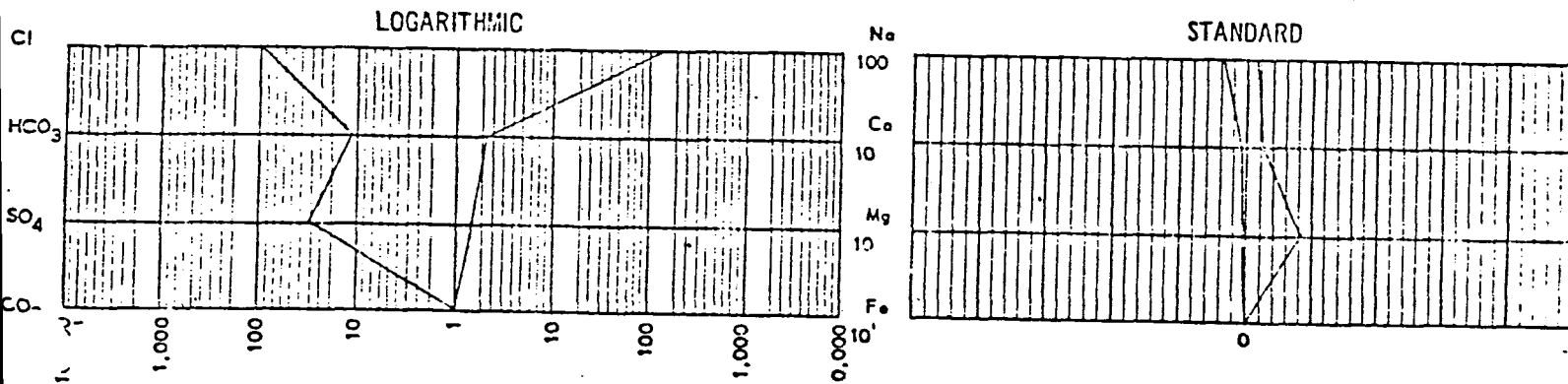
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.006 pH 8.3 RES. 0.68 OHM METERS @ 77°F

TOTAL HARDNESS Mg/L as CaCO₃ 209 TOTAL ALKALINITY Mg/L as CaCO₃ 719

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	49	2.45	
MAGNESIUM - Mg ++	21	1.73	
SODIUM - Na +	3337	145.17	
BARIUM (INCL. STRONTIUM) - Ba ++			
TOTAL IRON - Fe++ AND Fe+++			
BICARBONATE - HCO ₃ ⁻	840	13.78	
CARBONATE - CO ₃ ⁻⁻	18	0.60	
SULFATE - SO ₄ ⁻⁻	1947	40.50	
CHLORIDE - CL ⁻	3350	94.47	
TOTAL DISSOLVED SOLIDS	9136	298.70	

MILLEQUIVALENTS PER LITER



- () AREA OFFICE

() EXPLORATION MANAGER

() DIVISION OFFICE

() DIVISION EXPL. MANAGER

() DISTRICT OFFICE

() DISTRICT GEOLOGIST

() SHELL DEVELOPMENT - EPR

ANALYST E.H.

CHECKED _____

SHELL OIL COMPANY

PRODUCTION LABORATORY WATER ANALYSIS REPORT

DENVER, COLORADO

FROM: - PRODUCTION LABORATORY
DENVER, COLORADO

LABORATORY NUMBER 10181-3
SAMPLE TAKEN 11-18-71
SAMPLE RECEIVED 12-1-71
RESULTS REPORTED 12-6-71

TO: _____

SAMPLE DESCRIPTION

COMPANY SHELL OIL LEASE _____ FIELD NO. _____
SEC. 11 TWP. 2S RGE. 4W SUR. _____ WELL NO. Brother 1-11B4
DISTRICT _____ FIELD Altamont COUNTY _____ STATE Utah

SAMPLE TAKEN FROM _____

PRODUCING FORMATION _____ TOP _____

REMARKS From Treater

Well complete on Nov 15, 1971 SAMPLE TAKEN BY _____

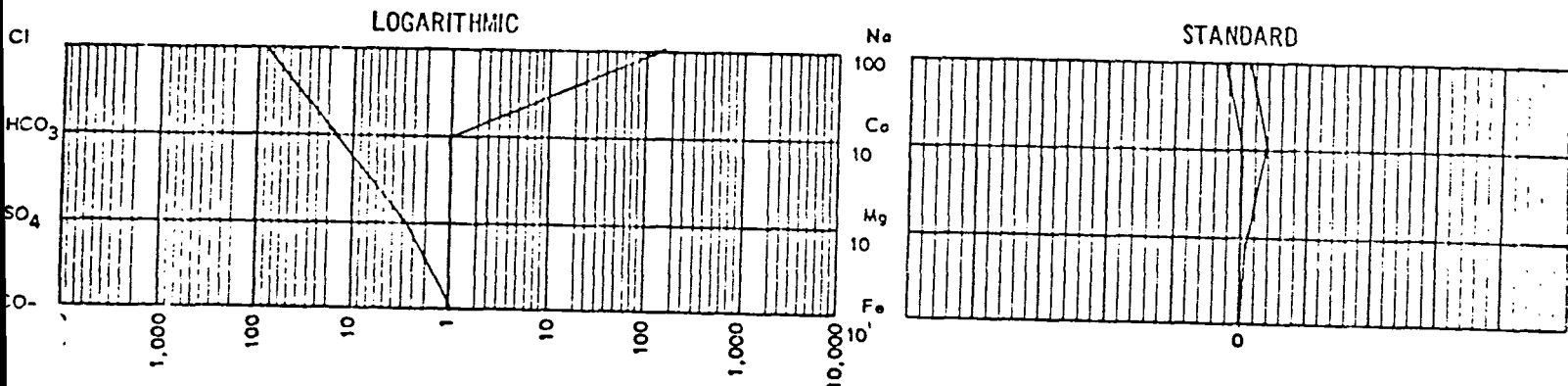
CHEMICAL AND PHYSICAL PROPERTIES

SPECIFIC GRAVITY @60/60° F. 1.005 pH 8.3 RES. 0.87 OHM METERS @ 77°F

TOTAL HARDNESS Mg/L as CaCO₃ 21 TOTAL ALKALINITY Mg/L as CaCO₃ 919

CONSTITUENT	MILLIGRAMS PER LITER Mg/L.	MILLEQUIVALENTS PER LITER MEQ/L	REMARKS
CALCIUM - Ca ++	5	0.25	
MAGNESIUM - Mg ++	2	0.16	
SODIUM - Na +	2,556	111.20	
BARIUM (INCL. STRONTIUM) - Ba ++	0	0	
TOTAL IRON - Fe ++ AND Fe +++	0	0	
BICARBONATE - HCO ₃ ⁻	1,120	18.37	
CARBONATE - CO ₃ ⁻⁻	0	0	
SULFATE - SO ₄ ⁻⁻	185	3.85	
CHLORIDE - CL ⁻	3,170	89.39	
TOTAL DISSOLVED SOLIDS	6,470	223.22	

←----- MILLEQUIVALENTS PER LITER -----→



() AREA OFFICE () DISTRICT OFFICE
() EXPLORATION MANAGER () DISTRICT GEOLOGIST
() DIVISION OFFICE () SHELL DEVELOPMENT - EPR
() DIVISION EXPL. MANAGER

ANALYST _____

CHECKED _____

CHEMICAL & GEOLOGICAL LABORATORIES

P. O. Box 2794
Casper, Wyoming

WATER ANALYSIS REPORT

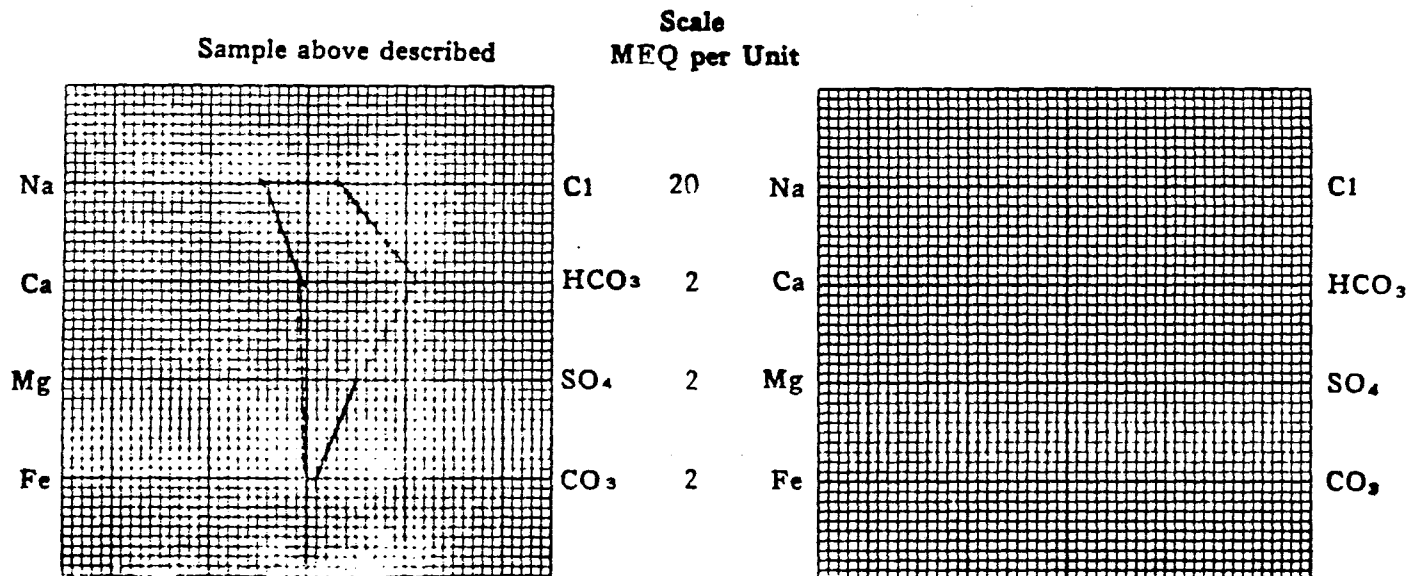
OPERATOR Shell Oil Company DATE March 19, 1974 LAB NO. 12215-3
WELL NO. 1-533 LOCATION Sec. 5-2S-3W
FIELD Altamont FORMATION Wasatch
COUNTY Duchesne INTERVAL _____
STATE Utah SAMPLE FROM Treater (2-11-74)

REMARKS & CONCLUSIONS: Cloudy water

Specific gravity @ 60°F ---- 1.005

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	2059	89.58	Sulfate	480	9.98
Potassium	27	0.69	Chloride	2050	57.81
Lithium	-	-	Carbonate	60	2.00
Calcium	13	0.65	Bicarbonate	1318	21.62
Magnesium	6	0.49	Hydroxide	-	-
Iron	-	-	Hydrogen sulfide	-	-
Total Cations		91.41	Total Anions		91.41
Total dissolved solids, mg/l 5344			Specific resistance @ 77°F: 77°F		
NaCl equivalent, mg/l 4932			Observed 1.30 ohm-meters		
Observed pH 8.6			Calculated 1.32 ohm-meters		

WATER ANALYSIS PATTERN



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter Meq/l= Milligram equivalents per liter

Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components

DATE _____ WELL NO. Broken LEASE _____ FIELD DJ

1-2334

Uter 2.1

DJ

248'

13 $\frac{3}{8}$ "

248'

ent to surface

9 $\frac{3}{8}$ "

2450

ent to surface

7"

9905 ent

stringer 5460'-5850

2450

4 pips to be
shot at 4200

to try and establish rate

proposed perts
for disposal
4778-5702

-4778

5460' cement top
-5702 from Bond log

5850

7200

9,489

production perts

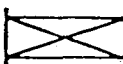
8912-9380
cement open

perts at 7263-

8680
has been squeezed

9,905

see back for
method if rgt 4200' can't be established



BRIDGE PLUG



PACKER



CENTRALIZER



SCRATCHER



BASKET



PERFORATION

SONIC LOG - GAMMA RAY

FOLD HERE

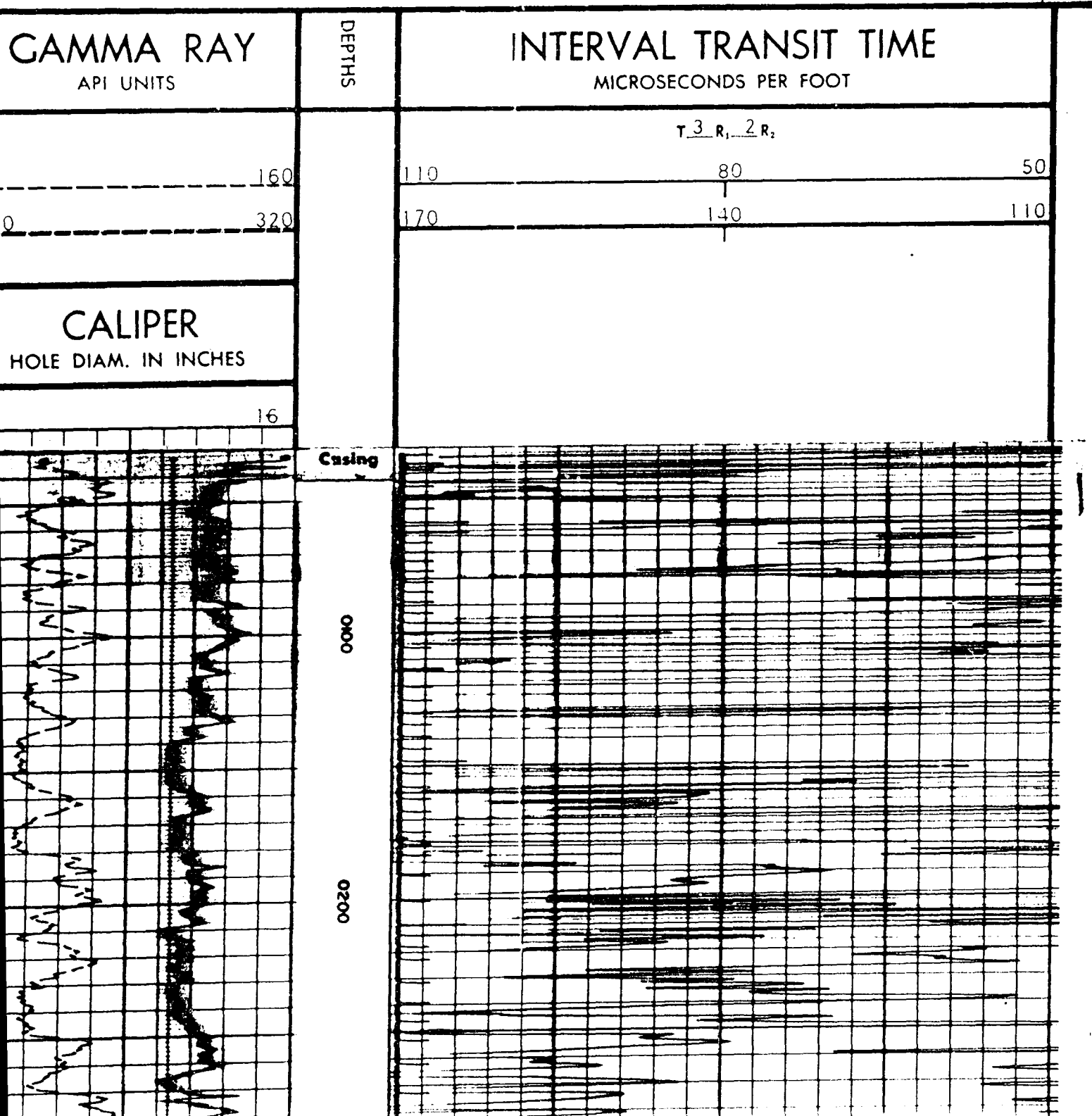
The well name, location and borehole reference data were furnished by the customer.

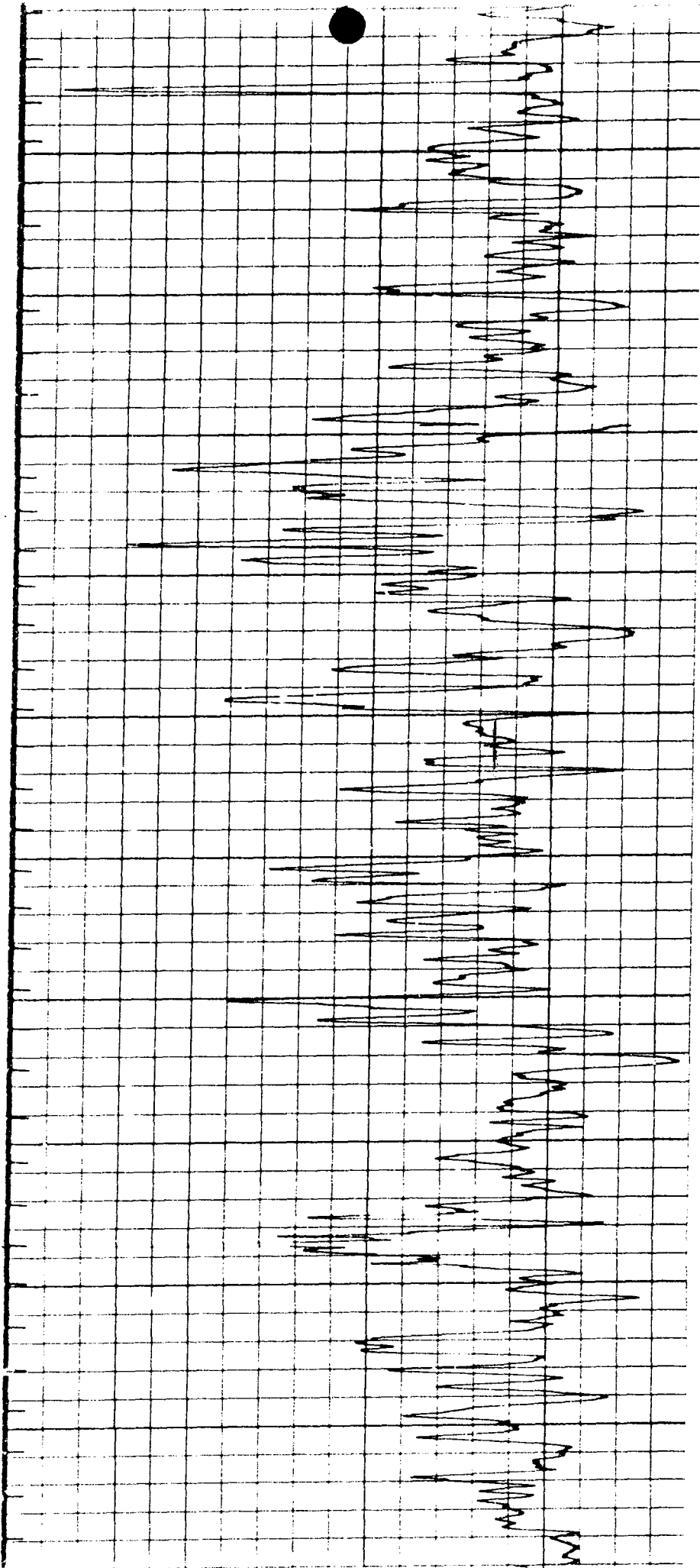
CALIBRATION:	BACKGND. CPS.	SOURCE CPS.	GALV. INCR. DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (FT./MIN.)
GAMMA RAY:	80	480	8.25	500	400	1	3600 FPM
RUN 2	60	440	8.25	500	400	2	30

INTEGRATED CURVE BELOW 7420 FOOT IS IN ERROR BY A FACTOR OF 5. DIVID PULSES BY 5 TO CORRECT INTEGRATED CURVE.

S.O.: RTT USED S.C. CALIPER & SPRING VCC
 Used: CART. No. SLC-A 73 SLC 232 B SAME AS RUN 2
 PANEL No. SLP-C 331 SLP 236 C
 SONDE No. SLS-D-406 SLS 232 D

OPERATION:	BACKGND. CPS.	SOURCE CPS.	GALV. INCR. DIVISIONS	SENS. TAP (FOR CAL.)	SENS. TAP (RECORD)	TIME CONST.	RECORDING SPEED (FT./MIN.)
1. RAY:	80	480	8.25	500	400	1	3600 FPH
2	60	440	8.25	500	400	2	30
INTEGRATED CURVE BELOW 7420 FOOT IS IN ERROR BY A FACTOR OF 5. DIVIDE							
PULSES BY 5 TO CORRECT INTEGRATED CURVE.							
3	80	480	10	150	150	2	30
Velocity (feet per second) =				1,000,000			
				Interval Transit Time (microseconds per foot)			





5100

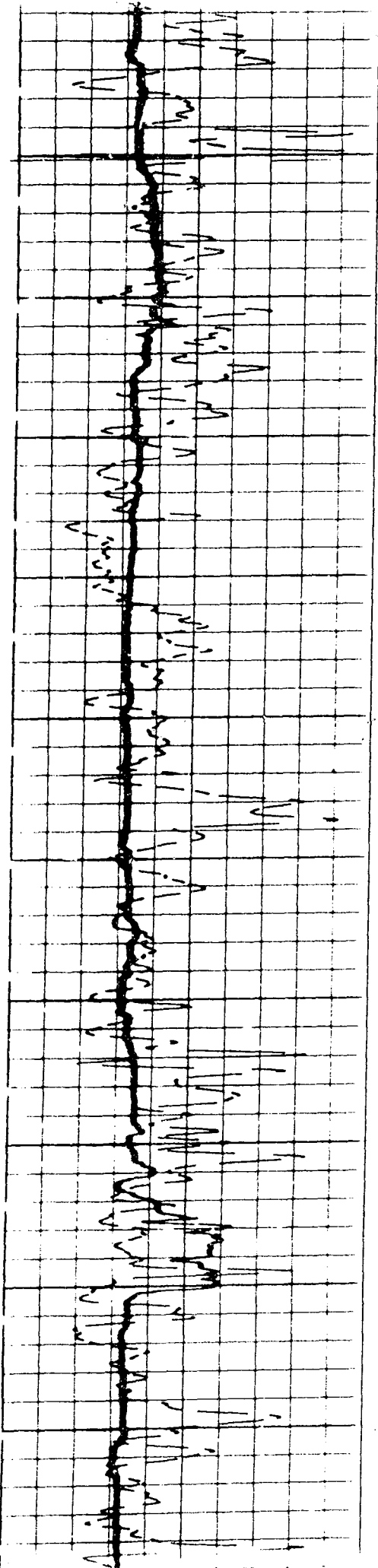
5200

5300

5400

5500

5600



SCHLUMBERGER

COMPENSATED FORMATION DENSITY LOG

Gamma-Gamma

COUNTY _____
FIELD or LOCATION _____
WELL _____
COMPANY _____

COMPANY SHELL OIL COMPANY
WELL BROTHERSON #1
FIELD WILDCAT
COUNTY DUCHESS STATE
Location: SW NE
Sec. 23 Twp. 25 Rge. 44
Other Services: DIC BHC-GK PML HDT

Permanent Datum: GL; Elev.: 6288
Log Measured From KB, 15 Ft. Above Perm. Datum
Drilling Measured From KB
Elev.: K.B. 6303
D.F. ---
G.L. 6288

Date 7-15-70
Run No. 740
Type Log GAMMA-GAMMA
Depth—Driller 990.3
Depth—Logger 990.3
Bottom logged interval 990.2
Top logged interval 2850
Type fluid in hole EGM
Salinity, PPM Cl. ---
Density 11.0
Level FAIR
Max rec. temp., deg F. 146
Operating rig time 4.0 HRS
Recorded by SCHNEIDER
Witnessed by MR. BLATZ

BORE-HOLE RECORD				CASING RECORD			
Run No.	Bit	From	To	Size	Wgt.	From	To
ONE	8 3/4	TD	2950	9 3/8	--	2450	GL

The well name, location and borehole reference data were furnished by the customer.

EQUIPMENT DATA

PG P-	PDH-A	PGH-A	PGS-E	Source No.	SFT-106	SGH	Logging Unit	Location
299	301	299	235	2613	270		4544	VERNAL

CALIBRATION DATA

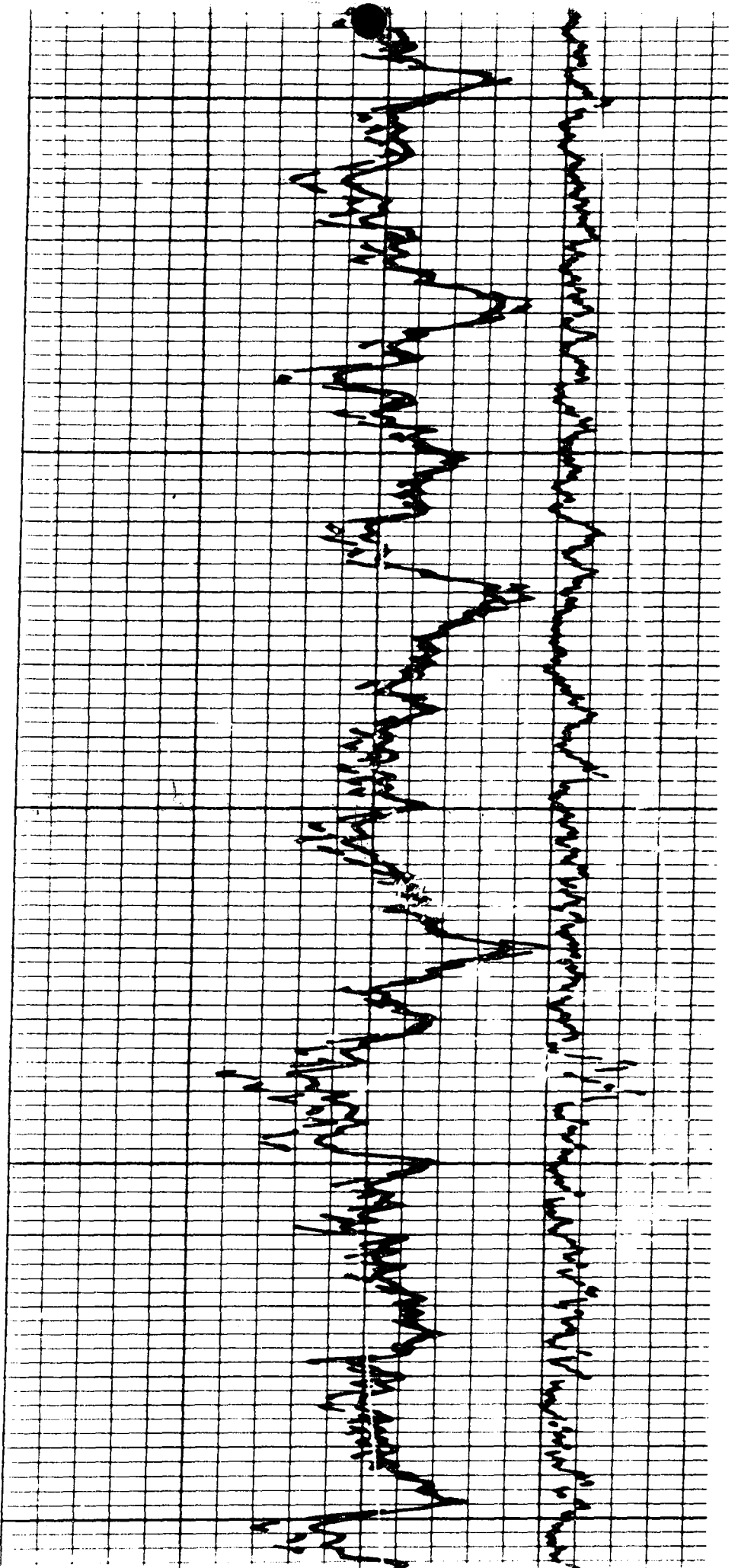
Gamma Ray			FDC — Before Log — ACPS		FDC — After Log — ACPS	
API Scale	Background CPS	Total CPS	P ₁	P ₂	P ₁	P ₂
150	76	480	490	236	440	290

LOGGING DATA

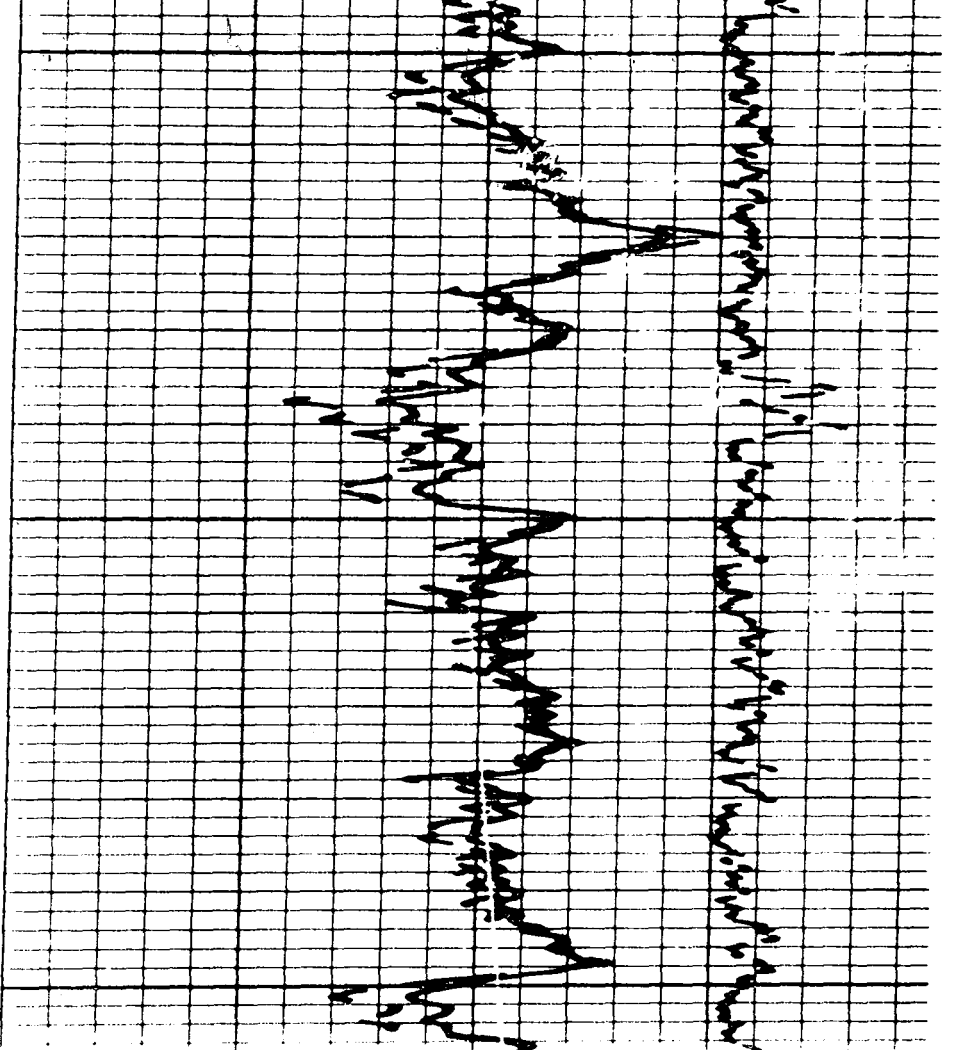
General			Gamma Ray		FDC Selectors			
Depths		Speed Ft./Min.	Tc	API Scale	Liquid Density	Grain Density	Hole Fluid	Porosity Scale
From	To							
TD		30	2	150	1.00	2.71	EGM	30%

MUD DATA

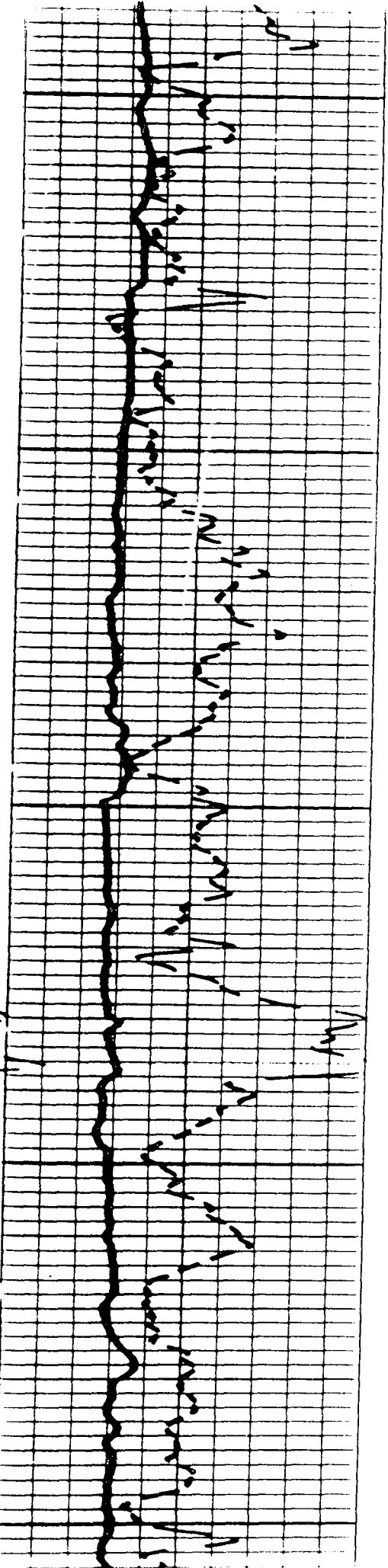
Rm.	@	°F	% Solids by Vol.	% Oil by Vol.	% Water by Vol.	Viscosity, Sec/Qt @	°F	Solids, Av. Sp. Gr.
	@	°F				@	°F	
	@	°F				@	°F	
	@	°F				@	°F	



5200



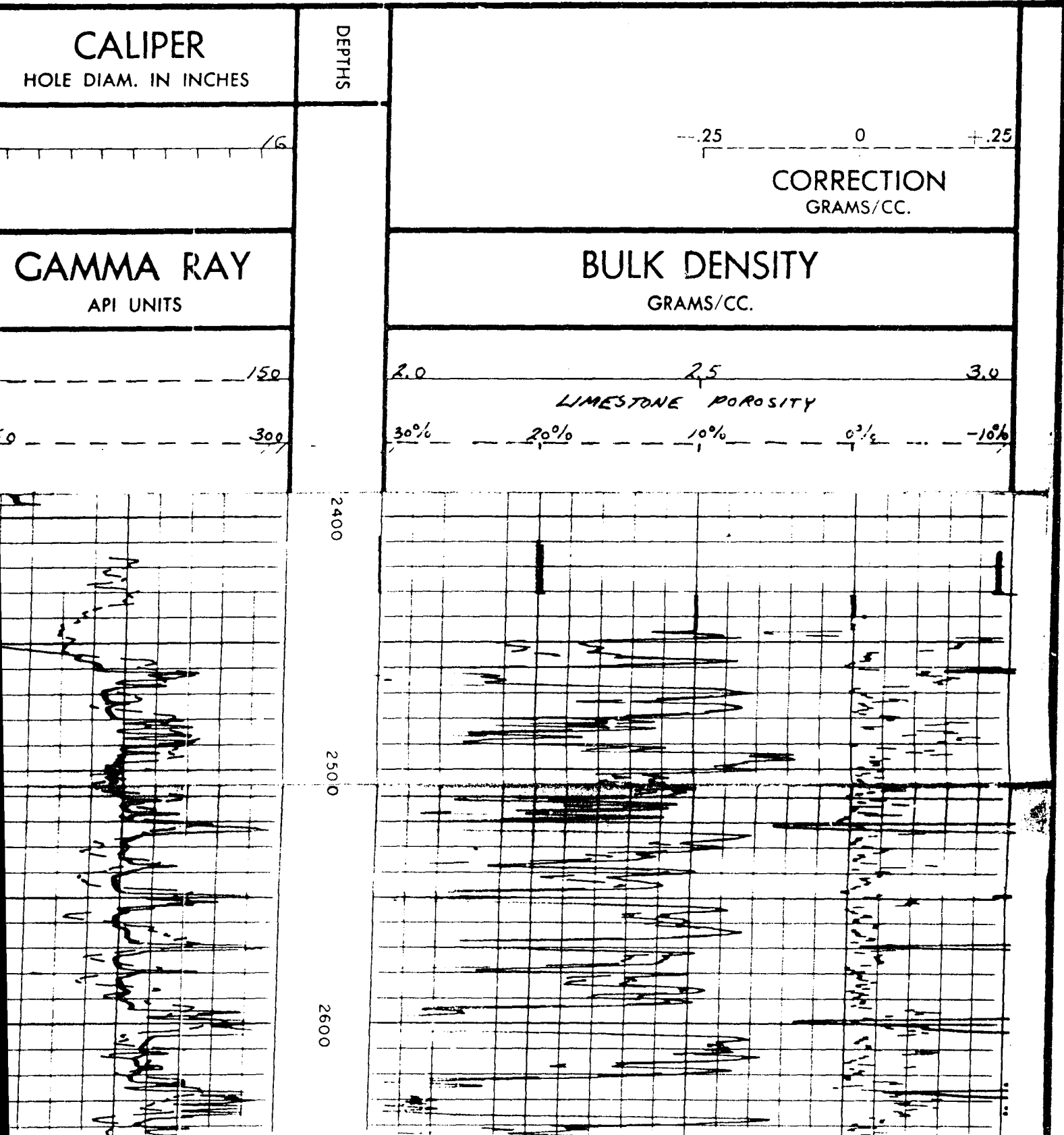
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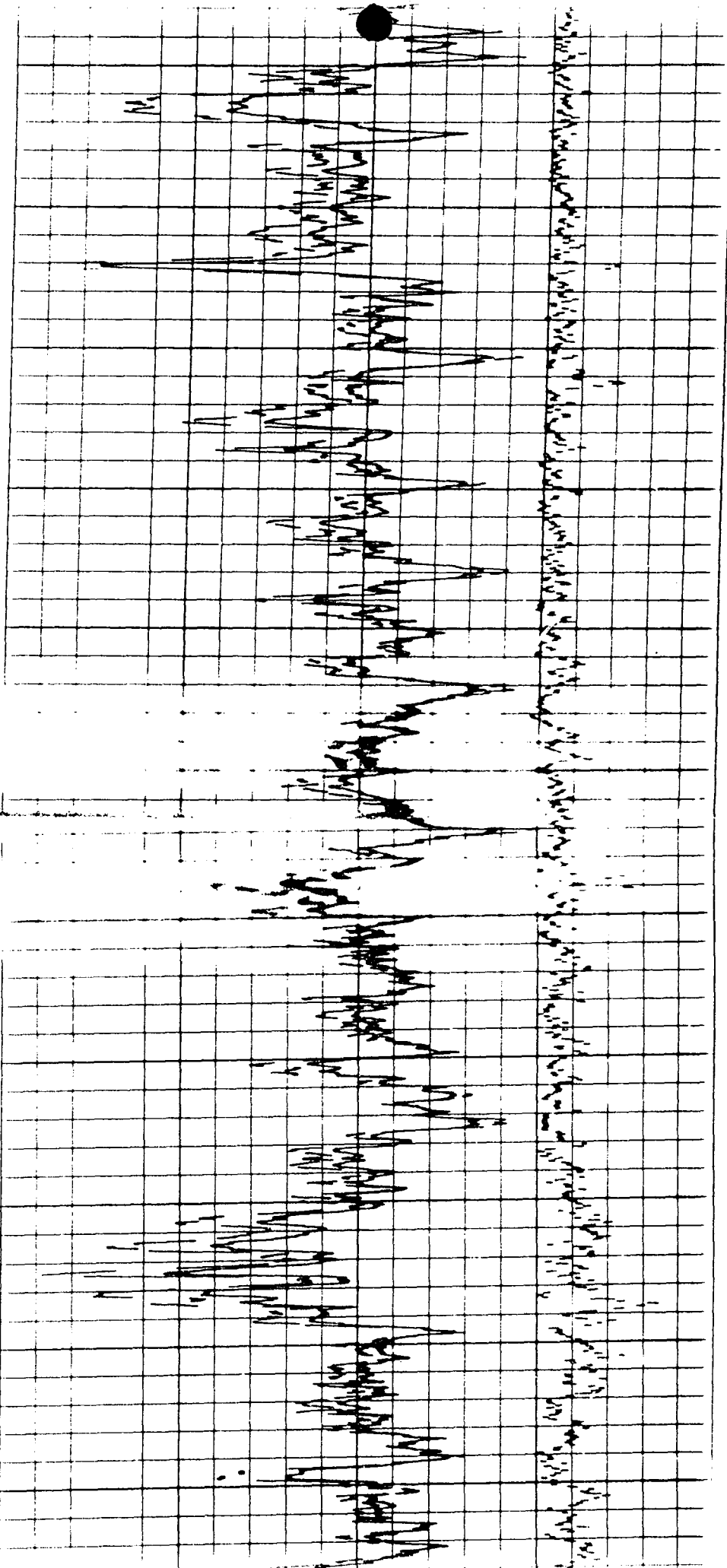


5400

arks:

Interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not, guarantee the accuracy or correctness of any interpretations, we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or sustained by anyone arising from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 7 of our General Terms and Conditions as set out in our current Price Schedule.





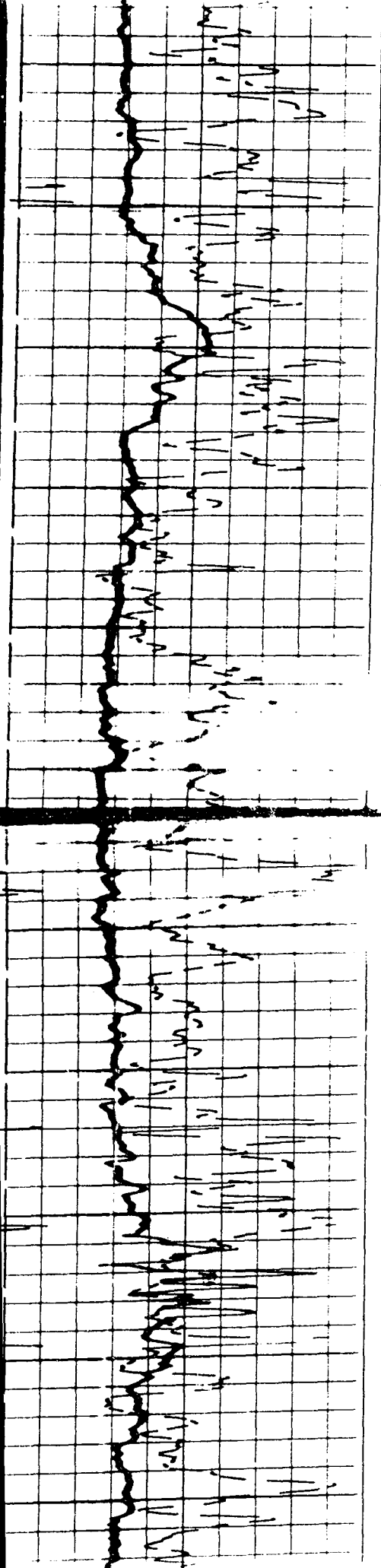
5100

5200

10

5400

5500



Shell-Brotherson 1-23B4R 5000/65/12/170. Drlg. Lost all returns @ 4865'. Fnp'd
(D) Brinkerhoff #69 2 - 30 bbl pills; hole wouldn't stay open. Rigging up
12,560' Wasatch Test air compressor.
EL 6270' GR Mud: Wtr : FEB 13 1979
13-3/8" csg @ 248'

Shell-Brotherson 1-23B4R 5390/65/13/390. Washing to btm.
(D) Brinkerhoff #69 Mud: Wtr & Air
12,560' Wasatch Test
EL 6270' GR FEB 14 1979
13-3/8" csg @ 248'

Shell-Brotherson 1-23B4R 5890/65/14/500. Drlg.
(D) Brinkerhoff #69 Mud: Wtr & Air
12,560' Wasatch Test
EL 6270' GR
13-3/8" csg @ 248' FEB 15 1979

Shell-Brotherson 1-23B4R 6300/65/15/410. Fnp to run csg. Spot'd 600 bbls
(D) Brinkerhoff #69 mud 6300'-4500'. FEB 16 1979
12,560' Wasatch Test Mud: Air & Wtr
EL 6270' GR
13-3/8" csg @ 248'

Shell-Brotherson 1-23B4R 2/17: 6300/65/16/0. WOC. Ran 153 jts K-55 LTSC 9-5/8"
(D) Brinkerhoff #69 csg @ 6280 & cmt'd w/415 sx lite, foll'd w/290 sx "H"
12,560' Wasatch Test cmt. Fnp'd 350 sx "H" cmt between 13-3/8 & 9-5/8.
EL 6270' GR Dev: 1-3/4 deg @ 6300'.
13-3/8" csg @ 248' Mud: Air & Wtr.
9-5/8" csg @ 6280' 2/18: 6300/65/17/0. PU BHA.
Mud: Air & Wtr
2/19: 6773/65/18/473. Drlg. Dev: 3-1/2 deg @ 6300,
2-1/2 deg @ 6520 & 3 deg @ 6743'.
Mud: Air & Wtr
2/20: 7350/65/19/577. Drlg. Dev: 1-3/4 deg @ 7088' &
2-1/4 deg @ 6773'.
Mud: Air & Wtr

2/17-20/79

Shell-Brotherson 1-23B4R 7744/65/20/394. RLM.
(D) Brinkerhoff #69 Mud: (.431) 8.3 x 27
12,560' Wasatch Test
EL 6270' GR FEB 21 1979
13-3/8" csg @ 248'
9-5/8" csg @ 6280'

Shell-Brotherson 1-23B4R 8360/65/21/616. Drlg.
(D) Brinkerhoff #69 Mud: (.431) 8.3 x 27
12,560' Wasatch Test
EL 6270' GR
13-3/8" csg @ 248' FEB 22 1979
9-5/8" csg @ 6280'

061803 *TA*STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING**SUNDRY NOTICES AND REPORTS ON WELLS**(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO.	
2. NAME OF OPERATOR ANR Ltd, Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR P.O. Box 749, Denver, Colorado 80201-0749		7. UNIT AGREEMENT NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' S & 2131' W from NE corner of Section 23		8. FARM OR LEASE NAME Brotherson	
14. PERMIT NO. 43-013-30038		9. WELL NO. 1-23B4	
15. ELEVATIONS (Show whether DF, RT, OR, etc.) GL 6288'		10. FIELD AND POOL, OR WILDCAT Altamont	
		11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Section 23, T2S, R4W	
		12. COUNTY OR PARISH Duchesne	13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of lease name and well number from Brotherson #1-23B4 to Lake Fork #2-23B4 SWD.

18. I hereby certify that the foregoing is true and correct

SIGNED Rodney E. Cox TITLE Production Engineer DATE 5/8/87
 (This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
 CONDITIONS OF APPROVAL, IF ANY:



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

May 26, 1987

Mr. Rodney Cox
ANR Limited, Inc.
600 17th Street, Suite 800S
P.O. Box 749
Denver, Colorado 80201-0749

Dear Mr. Cox:

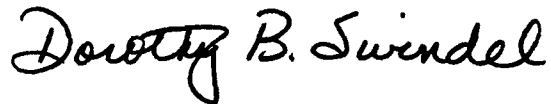
The UIC staff has reviewed your submitted application for the conversion of the Lake Fork 2-23B4 to a saltwater disposal well. Prior to our approval several matters concerning the conversion and operation of the saltwater disposal well must be addressed.

- 1) The Division requests that a more substantial plugging of open Green River perforations is necessary. ANR shall provide a procedure to either:
 - a) Squeeze existing perfs
 - b) Place a cement plug of at least 100' in length over intervals currently open to the well bore.
- 2) In order to protect overlying freshwater aquifers, the Division is limiting the proposed injection interval to 4200'-5831'. Log interpretations and a comparison with the recent depth to saline waters report conducted by the USGS, have placed the base of freshwater zones (less than 10,000 mg/l TDS) at approximately 3700'. It is the Division's policy to limit injection zones to around 1000 below the base of freshwater zones. However, the Division feels the depths of 4200'-5831' will be appropriate in this case.
- 3) The Division requests swab samples be taken from 3 separate intervals, (approximately 4200'-4700', 4700'-5200' and 5200'-5831') for analysis of formation waters. The test will also show the unlikely existence of producible hydrocarbons in the zones.
- 4) The Division is limiting the maximum authorized injection pressure to 1500 psi. The authorization and use of a higher injection pressure will require a step-rate test to provide the Division with justification for approving a higher injection pressure.

Page 2
May 26, 1987
Mr. Rodney Cox

Comments and responses to the above mentioned statements are requested and must be addressed prior to any further administrative action regarding the approval of this disposal well application. Please contact Gil Hunt, UIC Program Manager or Dorothy Swindel, UIC Geologist at (801)538-5340.

Sincerely,

A handwritten signature in cursive script that reads "Dorothy B. Swindel". The signature is written in dark ink and is positioned above the typed name and title.

Dorothy B. Swindel
UIC Geologist

mfp
0256U/19,20



ANR Limited Inc.
a subsidiary of The Coastal Corporation

June 4, 1987

RECEIVED
JUN 11 1987

**DIVISION OF
OIL, GAS & MINING**

State of Utah
Division of Oil, Gas and Mining
355 W. North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attention: Dorothy B. Swindel

Re: Application for Injection Well
Lake Fork #2-23B4 SWD
Section 23, T2S, R4W
Altamont Field
Duchesne County, Utah

Gentlemen:

In reference to your letter that we received dated May 26, 1987 we have attached a procedure which ANR Ltd. Inc. will follow allowing for a 100' cement plug to be placed over all opened Green River perforations. We are also in agreement to the proposed injection interval of 4200'-5831' in addition to all other requests. Please proceed with your administrative action regarding the approval of this disposal well application.

Sincerely,

Rodney E. Cox
Production Engineer

REC:dh

Attachment

cc: L. P. Streeb/Well File
Jon Nelsen

SWD WELL CONVERSION PROCEDURE

Lake Fork #2-23B4 (formerly Brotherson #1-23B4)
Altamont Field
Duchesne County, Utah

RECEIVED
JUN 11 1987

June 4, 1987

DIVISION OF
OIL, GAS & MINING

Well Data

Location: 1985' FNL & 2131' FEL of Section 23, T2S, R4W
Elevation: 6303' KB, 6288' GL
TD: 11,232'
PBSD: 9398'
Casing: 9-5/8" 36# J-55 ST&C @ 2450' w/760 sx cmt
7" 23# S-95 LT&C @ 9905' w/525 sx cmt
5" 18# N-80 FJ Hydril liner from 9489' to 11,232' w/180
sx cmt

Tubular Data

Description	ID	Drift	Capacity	Burst	Collapse
9-5/8" 36# J-55 ST&C	8.921"	8.765"	0.0773 B/F	3520 psi	2020 psi
7" 23# S-95 LT&C	6.336"	6.211"	0.0393 B/F	7530 psi	5650 psi
5" 18# N-80 FJ Hydril	4.276"	4.151"	0.0177 B/F	10,140 psi	10,490 psi

Present Status: Well is temporarily abandoned. Green River perforations (8912-9276') are still open. See attached wellbore schematic.

Procedure

1. MIRU workover unit. NU BOP. RIH w/a 6-1/4" mill, 7" casing scraper, 2-7/8" tubing work string & clean out to $\pm 7200'$. POH w/assembly.
2. MIRU wireline company & set a CIBP @ $\pm 7100'$. Using a dump bailer place a 100' cement plug (16 sx) on top of CIBP. Let cement set for 24 hrs. Pressure test casing to 1000 psig.
3. MIRU wireline company w/lubricator. Tag PBSD & perforate 8 cement squeeze holes @ $\pm 5300'$ w/a 4" hollow steel carrier casing gun. (Use OWP cement bond log dated 8/20/70 for correlation.)
4. RIH w/cement retainer on 2-7/8" tubing workstring & set @ $\pm 5250'$. Pressure test casing-tubing annulus to 1000 psig. Pressure test tubing to 4000 psig.
5. MIRU service company & cement squeeze annulus area behind 7" casing as follows:
 - a. Pump 100 bbls 250° F lease water containing 5% by volume paraffin dispersant.

- b. Pump 30 bbls of mud flush.
 - c. Pump 10 bbls freshwater spacer.
 - d. Pump 540 sx Hy-Fill cement.
 - e. Pump 100 sx Class G cement.
 - f. Displace cement w/31 bbls freshwater. Sting out of cement retainer & reverse out excess cement. POH w/tubing. Let cement set for ± 24 hrs.
- 6. RIH w/6-1/4" mill on 2-7/8" tubing workstring. Drill out cement retainer & clean out 7" casing to new PBTD @ $\pm 7100'$.
 - 7. MIRU wireline company and run CBL-VDL-CCL-GR log from PBTD past top of cement 400' w/2000 psig.
 - 8. Repeat steps 3-6 if necessary based on cement top.
 - 9. MIRU wireline company w/lubricator. Perforate the following intervals (4204'-5831') w/a 4" hollow carrier casing gun w/select fire 4 JSPF using 90° phasing as follows:

5831	5615	5407	5214	4962	4550	4263
5829	5613	5372	5212	4959	4509	4243
5814	5585	5366	5210	4855	4506	4224
5795	5583	5350	5186	4821	4478	4222
5793	5579	5348	5149	4819	4476	4220
5784	5553	5340	5147	4807	4471	4206
5781	5518	5317	5123	4805	4452	4204
5769	5516	5315	5120	4726	4450	
5765	5514	5309	5118	4724	4448	
5763	5502	5306	5116	4722	4412	
5761	5500	5304	5104	4703	4410	
5733	5498	5294	5102	4701	4409	
5732	5489	5292	5074	4645	4406	
5719	5487	5260	5072	4640	4361	
5716	5485	5248	5033	4631	4359	
5714	5476	5234	5030	4629	4356	
5687	5474	5233	5024	4626	4334	
5669	5468	5222	5001	4617	4332	
5630	5465	5220	4987	4602	4316	
5628	5410	5218	4986	4554	4313	

Notes: Total of 508 holes. Perforations correlate to Schlumberger BHC-Sonic-GR log dated 7/15/70.

10. RIH w/7" Baker "EA" Retrievmatic Packer and "G" Lok-Set Retrievable Bridge plug on 2-7/8" tubing. Isolate perf intervals 5200'-5831', 4690'-5200', 4690'-4190' and swab test separately for analysis of formation water as required by the Utah Division of Oil, Gas, and Mining. POH w/BHA.
11. RIH w/a Baker Lok-Set packer (plastic coated internally and externally) on 2-7/8" 6.5# N-80 EUE tubing (plastic coated internally) to $\pm 2600'$. Displace 7" x 2-7/8" annulus w/a clean non-corrosive packer fluid. Set packer @ $\pm 2600'$ w/12,000# compression (pressure test casing-tubing annulus to 2000 psig).
12. MIRU service company. Pressure test surface lines to 5000 psig. Acidize the 508 perforations from 4204' to 5831' w/13,000 gals 150° F 15% HCL dropping 1000 7/8" 1.1 S.G. (RCN) ballsealers volumetrically. Flush w/120 bbls produced lease water.

Notes: 1. Acid to contain inhibitor, friction reducer, iron-sequestering agent, surfactant.

2. Pumping rates - pump at maximum possible rate. Do not exceed 5000 psig.

3. Hold 2000 psig on casing-tubing annulus throughout acid job.

13. ND BOP & NU tree. Flow well to clean up acid treatment.

Prepared by Rodney E. Cox
Rodney E. Cox
Production Engineer

Date 6-5-87

Concur L. P. Streeb
L. P. Streeb
Production Superintendent

Date 6-5-87

Approved by R. L. Bartley
R. L. Bartley
District Drilling & Production Manager

Date 6/5/87



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 15, 1987

Uintah Basin Standard
Legal Advertising
Post Office Box 370
Roosevelt, Utah 84066

Gentlemen:

RE: Cause No. UIC-100

Enclosed is a Notice of Application of Administrative Approval before the Division of Oil, Gas and Mining, Department of Natural Resources, State of Utah.

It is requested that this notice be published ONCE ONLY, as soon as possible, but no later than the 24th day of June. In the event that said notice cannot be published by this date, please notify me immediately by calling 538-5340.

Upon completion of this request, please send proof of publication and statement of cost to the Division of Oil, Gas and Mining, 355 West North Temple, 3 Triad Center, Suite 350, Salt Lake City, Utah 84180-1203.

Sincerely,

Marjorie L. Anderson
Administrative Assistant

mfp

Enclosure



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

June 15, 1987

Newspaper Agency Corporation
Legal Advertising
143 South Main - Mezzanine Floor
Salt Lake City, Utah 84111

Gentlemen:

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Sincerely,

Marjorie L. Anderson
Administrative Assistant

mfp

Enclosure

PUBLICATION WAS SENT TO THE FOLLOWING:

ANR LIMITED, INC.
600 17th STREET - SUITE 800S
PO BOX 749
DENVER CO 80201-0749

BUREAU OF LAND MANAGEMENT
CONSOLIDATED FINANCIAL CENTER
324 SOUTH STATE STREET
SALT LAKE CITY UT 84111-2303

U.S. ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
ATTN: MIKE STRIEBY
999 18th STREET - SUITE 500
DENVER CO 80202-2405

UTAH STATE DEPARTMENT OF HEALTH
WATER POLLUTION CONTROL
ATTN: LOREN MORTON
288 N. 1480 W.
PO BOX 16690
SALT LAKE CITY UT 84116-0690

NEWSPAPER AGENCY CORPORATION
LEGAL ADVERTISING
143 SOUTH MAIN - MEZZANINE FLOOR
SALT LAKE CITY UT 84111

UINTAH BASIN STANDARD
LEGAL ADVERTISING
PO BOX 370
ROOSEVELT UT 84066

LAKE FORK RANCH AND CATTLE COMPANY
STAR ROUTE, BOX 48
MT. HOME, UT 84051
ATTN: MR. BRENT C. BROTHERRSON

FORCENERGY, INC.
640 SUNSET CIRCLE
KEY BISCAYNE FL 33149
ATTN: MR. STIG WENNERSTROM

G.I.D. ENERGY, INC.
16801 GREENSPPOINT PARK DRIVE - SUITE 110
HOUSTON TX 77060
ATTN: MR. D.A. PAAPE

LEHNDORFF/LGB MINERALS, INC.
2501 CEDAR SPRINGS - SUITE 340
DALLAS TX 75201
ATTN: MR. BOB BACHMAN

CONVEST ENERGY CORPORATION
2401 GOUNTAIN VIEW DRIVE - SUITE 700
HOUSTON TX 77057
ATTN: MR. KEN FAGAN

UTEX OIL COMPANY
445 E. 4500 S. - SUITE 220
SALT LAKE CITY UT 84107
ATTN: MR. STEVE TIPTON

CSX OIL AND GAS CORPORATION
410 17th STREET - SUITE 300
DENVER CO 80202
ATTN: MR. GARY BELL

Marlayne Poulsen
June 16, 1987

BEFORE THE DIVISION OF OIL, GAS AND MINING
DEPARTMENT OF NATURAL RESOURCES
STATE OF UTAH

---oo0oo---

IN THE MATTER OF THE APPLICATION :
OF ANR LIMITED, INCORPORATED FOR :
ADMINISTRATIVE APPROVAL TO :
CONVERT THE LAKE FORK 2-23B4 WELL CAUSE NO. UIC-100
LOCATED IN SECTION 23, TOWNSHIP 2 :
SOUTH, RANGE 4 WEST, U.S.M., :
DUCHSNE COUNTY, UTAH TO A :
WATER DISPOSAL WELL

---oo0oo---

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED
MATTER.

Notice is hereby given that ANR Limited, Incorporated has
requested administrative approval from the Division to convert the
following well to a saltwater disposal well:

Lake Fork #2-23B4
Section 23, Township 2 South, Range 4 West, U.S.M.
Duchesne County, Utah

INJECTION INTERVAL: Lower Uinta - Upper Green River Formation
4200' to 5831'
MAXIMUM SURFACE PRESSURE: 1500 psig
MAXIMUM INJECTION RATE: 6000 BWPD

Conditional approval of this application will be granted unless
objections are filed with the Division of Oil, Gas and Mining within
fifteen days after publication of this Notice. Objections, if any,
should be mailed to the Division of Oil, Gas and Mining, Attention:
UIC Program Manager, 3 Triad Center, Suite 350, 355 West North Temple,
Salt Lake City, Utah 84180-1203.

DATED this 15th day of June, 1987.

STATE OF UTAH
DIVISION OF OIL, GAS AND MINING


MARJORIE L. ANDERSON
Administrative Assistant

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER SWD <input type="checkbox"/>		5. LEASE DESIGNATION AND SERIAL NO. Patented	
2. NAME OF OPERATOR ANR Limited Inc.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME	
3. ADDRESS OF OPERATOR P. O. Box 749, Denver, Colorado 80201-0749		7. UNIT AGREEMENT NAME	
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface 1985' FNL & 2131' FEL		8. FARM OR LEASE NAME Lake Fork	
14. PERMIT NO. 43-013-30038		9. WELL NO. 2-23B4 SWD	
15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6303' KB, 6288' GL		10. FIELD AND POOL, OR WILDCAT	
		11. SEC., T., R., M., OR BLE. AND SURVEY OR AREA Section 23, T2S-R4W	
		12. COUNTY OR PARISH Duchesne	
		13. STATE Utah	

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>SWD Well Conversion</u> <input checked="" type="checkbox"/>	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Above-referenced well converted to salt water disposal well per attached chronological report.

See attached water analysis report and cement bond logs.

(This well was previously named the Brotherson #2-23B4.)

Commenced injection 1/1/88 *JD*

18. I hereby certify that the foregoing is true and correct

SIGNED

*Eileen Danni Dev*TITLE Regulatory AnalystDATE 1-22-88

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

ANR

ANR Production Company
a subsidiary of The Coastal Corporation

RECEIVED
JAN 25 1988

012712

DIVISION OF
OIL, GAS & MINING

January 19, 1988

Natural Resources
Oil, Gas & Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

Attention: Ms. Lisha Romero

This letter includes the information you requested on January 12, 1988 concerning the recent merger of ANR Limited, Inc. into ANR Production Company. Effective December 31, 1987 (December, 1987 Production), ANR Limited, Inc. merged into ANR Production Company; and henceforth, will continue operations as ANR Production Company.

N0675 ←

N0235

ANR Production Company will begin reporting and remitting the Utah Conservation and Occupation Taxes effective December, 1987 production for leases previously reported by ANR Limited, Inc. (Utah Account No. N-7245). ANR Production Company will use the new Utah Account No. N-0675, as assigned by the State of Utah.

Please contact me at (713) 877-6167 if I can answer any questions on this matter.

Very truly yours,

Roger W. Sparks
Roger W. Sparks
Manager, Crude Revenue Accounting

The computer shows the ANR Limited wells listed under account no. N0235.
DTS
1-26-88

CC: AWS

CTE:mmw

Lisha,

I don't see any problem w/this. I gave a copy to Arlene so she could check on the bond situation. She didn't think this would affect their bond as the bond is set up for Coastal and its subsidiaries (ANR, etc.) No Entity Number changes are necessary. DTS 1-26-88

STATE OF UTAH

SUBMIT TRIPLICATE
(Other instructions on
reverse side)DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUNDRY NOTICES AND REPORTS ON WELLS

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		12. COUNTY OR PARISH Duchesne	13. STATE Utah

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	FULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANN <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <u>SWD Well Conversion</u> <input checked="" type="checkbox"/>	

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See attached water analysis report and cement bond logs.

(This well was previously named the Brotherson #2-23B4.)

Commenced Injection 1/7/88 @ 3:30 PM

18. I hereby certify that the foregoing is true and correct

SIGNED

*Eileen Danni Dey*TITLE Regulatory AnalystDATE 1-22-88

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

^{25 4w 3}
 43-013-30048 WSTC 1525 PA (1-03B4) ✓
^{25 3w 4}
 43-013-30337 UNTA 99996 SDW #2-483 ✓
^{25 5w 27}
 43-013-30340 UNTA 99996 SDW #2-27B5 ✓
^{15 4w 29}
 43-013-30276 WSTC 1831 PA 1-29A4 ✓
^{25 2w 13}
 43-013-30366 WSTC 1905 ~~PA~~ POW 1-13B2 ✓
^{15 3w 25}
 43-013-30370 WSTC 1920 ~~PA~~ POW 1-25A3 ✓ (Cont.)
^{25 4w 23}
 43-013-30038 GR-WS 1970 TA 2-23B4 ✓
^{25 4w 23}
 43-013-30038 GRU 1970 TA 1-23B4 ✓
^{25 5w 18}
 43-013-30058 WSTC 99998 PPA 1-18B5 ✓
^{15 4w 27}
 43-013-30266 UNTA SDW 99996 1-27A4 ✓
^{25 5w 11}
 43-013-30391 UNTA 99996 SDW 2-11B5 ✓
^{25 3w 3}
 43-013-37193 Dr. 99999 2-3-B3 ✓
^{25 4w 1}
 43-013-31197 Dr. — 2-1-B4 ✓
^{15 3w 22}
 43-013-30357 GRU 1885 POW 1-22A3 ✓
^{25 2w 20}
 43-047-30186 GR-WS 1875 POW 1-20B2E ✓

THE COASTAL CORPORATION
DRILLING REPORT

LAKEFORK #2-23B4 SWD
ALTAMONT FIELD
DUCHESNE COUNTY, UTAH
WI: 50.000% ANR AFE: 62157
SD:
TD: 11,232' (WASATCH)
CSG: 7" @ 9905'
PERFS:
CWC(M\$): 104.6 CC(M\$):

- 10/9/87 Clean out 7" csg. MIRU WOW rig #13. ND tree & NU BOP. PU 6-1/8" mill on 7" csg scraper & TIH to 7193'. SI well. SDFN. NOTE: Csg full of oil & paraffin.
DC: \$3,651 TC: \$3,651
- 10/10/87 TIH to spot cmt on CIBP @ 7100'. POH w/tbg & mill. RIH & set CIBP @ 7100' on wireline. TIH opended w/2-7/8" tbg to spot 100' cmt on top of plug.
DC: \$3,456 TC: \$7,107
- 10/11/87 Prep to circ up 7" x 9-5/8" annul. MIRU Howco. Spotted 100' cmt 7000-7100'. POH w/2-7/8" tbg & found btm end cut & peeled. MIRU OWP. Ran CBL 5900-4700' w/TOC @ 5450'. Found 4' csg part 3634-38'. SI well. SDFS.
DC: \$6,811 TC: \$13,918
- 10/12/87 SD.
- 10/13/87 POH w/2-7/8" tbg. PU mule shoe on 2-7/8" tbg & TIH to 3612'. Circ hole w/hot wtr/4 hrs. Closed BOP rams. Pmpd dn 2-7/8" tbg & up 9-5/8" x 7" annul. SI well. SDFN.
DC: \$2,507 TC: \$16,425
- 10/14/87 POH LD 7" csg. Rolled hole up 9-5/8" csg w/120 bbls KCL wtr. POH w/2-7/8" tbg. ND BOP & tbg head. Well on 7" csg stub. Jack csg out of Bradenhead. POH LD 950' 7" csg. SI well. SDFN.
DC: \$3,880 TC: \$20,305
- 10/15/87 POH LD 7" csg. Tot 78 jts, 3635.71'. Sent csg in to remachine threads & change collars. SI well. SDFN.
DC: \$6,933 TC: \$27,238
- 10/16/87 TIH w/WP. PU 8-1/2" wsh dn OS on 2-7/8" tbg & TIH to dress csg stub.
DC: \$1,532 TC: \$28,770
- 10/17/87 PU 8-1/2" WP. TIH w/WO pipe on 2-7/8" tbg. Tagged csg @ 3657'. Wsh dn 6" & progress stopped. POH w/tbg & WP. SI well. SDFN.
DC: \$2,328 TC: \$31,098
- 10/18/87 NU tbg spool. PU 8-1/2" WP on 2-7/8" tbg & TIH. Tagged csg @ 3657'. Wshd dn 5' & mill off top 5' of csg. POH w/WP & tbg. Ran & land 90 jts (3656') 7" 26# N-80 LT&C csg w/Bowen csg grapple on btm. Latched csg & landed in Bradenhead. Pmpd dn 7" csg w/rets up 9-5/8" csg. SI well. SDFN.
DC: \$9,883 TC: \$40,981
- 10/19/87 Shoot sqz holes. Cut & bevel 7" csg. NU tbg spool. NU BOP. PU 6-1/8" mill on 2-7/8" tbg & TIH to 3677' w/no drag. POH w/tbg & mill. PU 7" retrievomatic on 2-7/8" tbg & TIH. Isolated csg leak @ 4355-87'. POH w/pkr & tbg. SI well. SDFN.
DC: \$3,293 TC: \$44,274
- 10/20/87 POH w/tbg. MIRU OWP. Perf 4 holes @ 5300'. Set 7" cmt ret @ 4200'. PU stinger on 2-7/8" tbg & TIH. Tagged @ 3973'. Wrkd thru @ latched in ret @ 4200'. Circ up 9-5/8" csg @ 1 BPM & 800 psi. POH w/2-7/8" tbg incompl.
DC: \$3,652 TC: \$47,926
- 10/21/87 Prep to RIH w/cmt ret. POH w/tbg & stinger. Ran caliper log 4190-3250' w/no ID loss. PU 6-1/8" mill on 2-7/8" tbg & TIH. Drld up ret to slips & push dn hole to 6508'. POH w/tbg & mill. SI well. SDFN.
DC: \$6,588 TC: \$54,514

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT TRIPLICATE*
(Other instructions on reverse side)

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SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
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Above-referenced well converted to salt water disposal well per attached chronological report.

See attached water analysis report and cement bond logs.

(This well was previously named the Brotherson #2-23B4.)

Commenced injection 1/7/88

18. I hereby certify that the foregoing is true and correct

SIGNED

Eileen Danni Dey

TITLE Regulatory Analyst

DATE 1-22-88

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

LAKEFORK #2-23B4 SWD (continued)

- 10/22/87 WOC. PU 7" x 2-7/8" Baker retrievomatic pkr on 2-7/8" tbg & TIH. Set pkr @ 3600' & press tst csg surf-3600'. OK. Unseat pkr & POH w/tbg & pkr. Set 7" cmt ret @ 3615' w/wireline. PU stinger on 2-7/8" tbg & TIH. Stung into ret. Press tst tbg to 4000 psi. OK. Pmpd 300 sx HiFill & 200 sx C1 G cmt w/FLA. Preceded cmt w/500 gal xylene & 20 BM flush. Displ cmt w/14 bbls fresh wtr. Had full rets thruout. No cmt to surf. 9-5/8" x 7" annul on vac after SD. SD. WOC.
DC: \$17,361 TC: \$71,875
- 10/27/87 Run bond log. Brk circ. Start drlg @ 5046'. Cmt hard @ 5240'. Fall thru @ 5300'. RIH w/tbg to 6542'. Circ in 350 bbls prod wtr. POH & std back DCS.
DC: \$1,964 TC: \$86,016
- 10/28/87 RIH w/stinger & tbg. RU OWP. RIH to 5500'. Run CBL. Cmt top @ 3650'. Set RBP on wireline @ 3630'. Run dump bailer & drop 2 sx sd (10' fill). RIH w/perf gun. Shoot 4 sqz holes @ 3575' w/400 psi on 7" csg. Lost 150 psi after perf. Pmp dn 7" out 9-5/8" 4.7 BPM. RIH w/tbg & Baker cmt ret @ 3515'. SDFN.
DC: \$6,248 TC: \$92,264
- 10/29/87 RIH w/mill. PU stinger. RIH w/tbg & latch onto ret. Tst tbg to 4000 psi & csg to 2000 psi. Pmp 100 bbls prod wtr, 500 gals xylene, 20 bbls mud flush, 8 bbls fresh wtr, 240 sx high fill, 163 bbls, 100 sx premium cmt 18 bbls, 10 bbls fresh wtr & 9 bbls prod wtr. Pull out of pkr & reverse out 2 times tbg vol. POH w/tbg & LD stinger.
DC: \$7,465 TC: \$99,729
- 10/30/87 Drl on cmt. PU 6-1/8" mill & 10 3-1/8" DCS. RIH to cmt ret @ 3515'. RU drl equip. Brk circ & drl out ret. Drl out 20' cmt to 3537'. Circ btms up twice. SDFN.
DC: \$3,334 TC: \$103,063
- 10/31/87 Perf well 5831-4204'. Brk circ. Drl out cmt perfs @ 3575'. Fall out of cmt @ 3614'. 4' free. Clean out 4' sd off plug. Circ 150 bbls prod wtr. Tst to 2000 psi. OK. POH w/tbg & std back collars. RU OWP CBL & log fr 3624-1100'. **TOC** @ 1370'. Hold 2000 psi while logging. RD OWP. 3624-1370' avg 90% bond. RIH w/retrieving tool. Brk circ. Latch onto BP. POH w/tbg & plug. SDFN.
DC: \$2,283 TC: \$105,346
- 11/1/87 RU OWP. Perf 5831' to 4204', 4 SPF, 90° phasing, 10 runs, 508 holes total. PU 7" Baker retrievomatic pkr & BP. RIH w/2-7/8" tbg. BP set 3 times on way dn. RIH to 5875. SDFN.
DC: \$18,325 TC: \$123,671
- 11/2/87 Obtain wtr samples. Set RBP @ 5875'. Set pkr @ 5843'. Tst to 500 psi. Reset pkr @ 5200'. Made 17 S/runs. Rec 114 BW & 800' fluid. Took sample. Reset RBP @ 5200'. Tst to 500 psi. Reset pkr @ 4677'. Made 15 S/runs. Rec 104 BW, 700' fluid. Took sample. Reset RBP @ 4665'. Tst to 5000 psi. Reset pkr @ 4163'. Made 2 S/runs. Rec 10 bbls fr 600-1800'. Tst 7" csg to 1000 psi. Held 10 min. OK. Bled off. SDFN.
DC: \$4,850 TC: \$128,521
- 11/3/87 Acidize well. Made 10 S/runs fr RBP setting @ 4665' & pkr setting @ 4163'. Rec 92 BW & took sample. Rel RBP & pkr & POH. LD RBP, pkr & 10 3-1/8" DCS. PU 7" retrievomatic pkr & Model S tbg tstr. RIH & set pkr @ 4166'. Tst tbg to 500 psi. Held OK. Tst 7" csg to 1000 psi. Held OK.
DC: \$3,210 TC: \$131,731
- 11/4/87 RIH w/prod equip. RU Smith Energy. Tst lines to 7000#. Hold 800 psi on csg. Pmp 12 bbls xylene, 72 bbls 15% HCL, 5 bbls brine wtr w/200# rock salt. Repeat 4 times. Flush w/24 bbls acid & 96 bbls prod wtr. Max press 2600 psi. Avg press 1500 psi. Max rate 12.1 BPM, avg 9 BPM. Last 10 bbls pmp @ 6 BPM @ 600 psi. SD well on vac. RD Smith. LD swivel. 464 bbls tot ld. SDFN.
DC: \$14,600 TC: \$146,331

LAKEFORK #2-23B4 SWD (continued)

- 11/5/87 Try to set prod pkr. Unset pkr. Fin POH w/wrk string, 10 3-1/8" DCS & tools. LD same. Unload 126 jts 2-7/8" internally coated tbg. PU internally coated SN, lokset pkr & attachments (on-off tool 2.31 profile). PU prod tbg (internally coated) & RIH w/BHA. Collars are MMS. Tuboscope hand check ea jt. Pmp 140 bbls treated prod wtr dn csg. ND BOPE. Try to set pkr. It would not set. NU BOPS.
DC: \$23,821 TC: \$170,152
- 11/6/87 RR. Set pkr @ 4105' w/18,000# tension. Tst csg to 1000 psi. ND BOPS. Land tbg w/18,000# tension. Load out wrk string. RD. Rack out all equip.
DC: \$11,608 TC: \$181,760

THE COASTAL CORPORATION
DRILLING REPORT

LAKEFORK #2-23B4 SWD
ALTAMONT FIELD
DUCHESNE COUNTY, UTAH
WI: 50.000% ANR AFE: 62157
SD:
TD: 11,232' (WASATCH)
CSG: 7" @ 9905'
PERFS:
CWC(M\$): 104.6 CC(M\$):

- 10/9/87 Clean out 7" csg. MIRU WOW rig #13. ND tree & NU BOP. PU 6-1/8" mill on 7" csg scraper & TIH to 7193'. SI well. SDFN. NOTE: Csg full of oil & paraffin.
DC: \$3,651 TC: \$3,651
- 10/10/87 TIH to spot cmt on CIBP @ 7100'. POH w/tbg & mill. RIH & set CIBP @ 7100' on wireline. TIH opended w/2-7/8" tbg to spot 100' cmt on top of plug.
DC: \$3,456 TC: \$7,107
- 10/11/87 Prep to circ up 7" x 9-5/8" annul. MIRU Howco. Spotted 100' cmt 7000-7100'. POH w/2-7/8" tbg & found btm end cut & peeled. MIRU OWP. Ran CBL 5900-4700' w/TOC @ 5450'. Found 4' csg part 3634-38'. SI well. SDFS.
DC: \$6,811 TC: \$13,918
- 10/12/87 SD.
- 10/13/87 POH w/2-7/8" tbg. PU mule shoe on 2-7/8" tbg & TIH to 3612'. Circ hole w/hot wtr/4 hrs. Closed BOP rams. Pmpd dn 2-7/8" tbg & up 9-5/8" x 7" annul. SI well. SDFN.
DC: \$2,507 TC: \$16,425
- 10/14/87 POH LD 7" csg. Rolled hole up 9-5/8" csg w/120 bbls KCL wtr. POH w/2-7/8" tbg. ND BOP & tbg head. Well on 7" csg stub. Jack csg out of Bradenhead. POH LD 950' 7" csg. SI well. SDFN.
DC: \$3,880 TC: \$20,305
- 10/15/87 POH LD 7" csg. Tot 78 jts, 3635.71'. Sent csg in to remachine threads & change collars. SI well. SDFN.
DC: \$6,933 TC: \$27,238
- 10/16/87 TIH w/WP. PU 8-1/2" wsh dn OS on 2-7/8" tbg & TIH to dress csg stub.
DC: \$1,532 TC: \$28,770
- 10/17/87 PU 8-1/2" WP. TIH w/WO pipe on 2-7/8" tbg. Tagged csg @ 3657'. Wsh dn 6" & progress stopped. POH w/tbg & WP. SI well. SDFN.
DC: \$2,328 TC: \$31,098
- 10/18/87 NU tbg spool. PU 8-1/2" WP on 2-7/8" tbg & TIH. Tagged csg @ 3657'. Wshd dn 5' & mill off top 5' of csg. POH w/WP & tbg. Ran & land 90 jts (3656') 7" 26# N-80 LT&C csg w/Bowen csg grapple on btm. Latched csg & landed in Bradenhead. Pmpd dn 7" csg w/rets up 9-5/8" csg. SI well. SDFN.
DC: \$9,883 TC: \$40,981
- 10/19/87 Shoot sqz holes. Cut & bevel 7" csg. NU tbg spool. NU BOP. PU 6-1/8" mill on 2-7/8" tbg & TIH to 3677' w/no drag. POH w/tbg & mill. PU 7" retrievematic on 2-7/8" tbg & TIH. Isolated csg leak @ 4355-87'. POH w/pkr & tbg. SI well. SDFN.
DC: \$3,293 TC: \$44,274
- 10/20/87 POH w/tbg. MIRU OWP. Perf 4 holes @ 5300'. Set 7" cmt ret @ 4200'. PU stinger on 2-7/8" tbg & TIH. Tagged @ 3973'. Wrkd thru @ latched in ret @ 4200'. Circ up 9-5/8" csg @ 1 BPM & 800 psi. POH w/2-7/8" tbg incompl.
DC: \$3,652 TC: \$47,926
- 10/21/87 Prep to RIH w/cmt ret. POH w/tbg & stinger. Ran caliper log 4190-3250' w/no ID loss. PU 6-1/8" mill on 2-7/8" tbg & TIH. Drld up ret to slips & push dn hole to 6508'. POH w/tbg & mill. SI well. SDFN.
DC: \$6,588 TC: \$54,514

LAKEFORK #2-23B4 SWD (continued)

- 10/22/87 WOC. PU 7" x 2-7/8" Baker retrievomatic pkr on 2-7/8" tbg & TIH. Set pkr @ 3600' & press tst csg surf-3600'. OK. Unseat pkr & POH w/tbg & pkr. Set 7" cmt ret @ 3615' w/wireline. PU stinger on 2-7/8" tbg & TIH. Stung into ret. Press tst tbg to 4000 psi. OK. Pmpd 300 sx HiFill & 200 sx Cl G cmt w/FLA. Preceded cmt w/500 gal xylene & 20 BM flush. Displ cmt w/14 bbls fresh wtr. Had full rets thruout. No cmt to surf. 9-5/8" x 7" annul on vac after SD. SD. WOC.
DC: \$17,361 TC: \$71,875
- 10/27/87 Run bond log. Brk circ. Start drlg @ 5046'. Cmt hard @ 5240'. Fall thru @ 5300'. RIH w/tbg to 6542'. Circ in 350 bbls prod wtr. POH & std back DCS.
DC: \$1,964 TC: \$86,016
- 10/28/87 RIH w/stinger & tbg. RU OWP. RIH to 5500'. Run CBL. Cmt top @ 3650'. Set RBP on wireline @ 3630'. Run dump bailer & drop 2 sx sd (10' fill). RIH w/perf gun. Shoot 4 sqz holes @ 3575' w/400 psi on 7" csg. Lost 150 psi after perf. Pmp dn 7" out 9-5/8" 4.7 BPM. RIH w/tbg & Baker cmt ret @ 3515'. SDFN.
DC: \$6,248 TC: \$92,264
- 10/29/87 RIH w/mill. PU stinger. RIH w/tbg & latch onto ret. Tst tbg to 4000 psi & csg to 2000 psi. Pmp 100 bbls prod wtr, 500 gals xylene, 20 bbls mud flush, 8 bbls fresh wtr, 240 sx high fill, 163 bbls, 100 sx premium cmt 18 bbls, 10 bbls fresh wtr & 9 bbls prod wtr. Pull out of pkr & reverse out 2 times tbg vol. POH w/tbg & LD stinger.
DC: \$7,465 TC: \$99,729
- 10/30/87 Drl on cmt. PU 6-1/8" mill & 10 3-1/8" DCS. RIH to cmt ret @ 3515'. RU drl equip. Brk circ & drl out ret. Drl out 20' cmt to 3537'. Circ btms up twice. SDFN.
DC: \$3,334 TC: \$103,063
- 10/31/87 Perf well 5831-4204'. Brk circ. Drl out cmt perfs @ 3575'. Fall out of cmt @ 3614'. 4' free. Clean out 4' sd off plug. Circ 150 bbls prod wtr. Tst to 2000 psi. OK. POH w/tbg & std back collars. RU OWP CBL & log fr 3624-1100'. TOC @ 1370'. Hold 2000 psi while logging. RD OWP. 3624-1370' avg 90% bond. RIH w/retrieving tool. Brk circ. Latch onto BP. POH w/tbg & plug. SDFN.
DC: \$2,283 TC: \$105,346
- 11/1/87 RU OWP. Perf 5831' to 4204', 4 SPF, 90° phasing, 10 runs, 508 holes total. PU 7" Baker retrievomatic pkr & BP. RIH w/2-7/8" tbg. BP set 3 times on way dn. RIH to 5875. SDFN.
DC: \$18,325 TC: \$123,671
- 11/2/87 Obtain wtr samples. Set RBP @ 5875'. Set pkr @ 5843'. Tst to 500 psi. Reset pkr @ 5200'. Made 17 S/runs. Rec 114 BW & 800' fluid. Took sample. Reset RBP @ 5200'. Tst to 500 psi. Reset pkr @ 4677'. Made 15 S/runs. Rec 104 BW, 700' fluid. Took sample. Reset RBP @ 4665'. Tst to 5000 psi. Reset pkr @ 4163'. Made 2 S/runs. Rec 10 bbls fr 600-1800'. Tst 7" csg to 1000 psi. Held 10 min. OK. Bled off. SDFN.
DC: \$4,850 TC: \$128,521
- 11/3/87 Acidize well. Made 10 S/runs fr RBP setting @ 4665' & pkr setting @ 4163'. Rec 92 BW & took sample. Rel RBP & pkr & POH. LD RBP, pkr & 10 3-1/8" DCS. PU 7" retrievomatic pkr & Model S tbg tstr. RIH & set pkr @ 4166'. Tst tbg to 500 psi. Held OK. Tst 7" csg to 1000 psi. Held OK.
DC: \$3,210 TC: \$131,731
- 11/4/87 RIH w/prod equip. RU Smith Energy. Tst lines to 7000#. Hold 800 psi on csg. Pmp 12 bbls xylene, 72 bbls 15% HCL, 5 bbls brine wtr w/200# rock salt. Repeat 4 times. Flush w/24 bbls acid & 96 bbls prod wtr. Max press 2600 psi. Avg press 1500 psi. Max rate 12.1 BPM, avg 9 BPM. Last 10 bbls pmp @ 6 BPM @ 600 psi. SD well on vac. RD Smith. LD swivel. 464 bbls tot ld. SDFN.
DC: \$14,600 TC: \$146,331

LAKEFORK #2-23B4 SWD (continued)

- 11/5/87 Try to set prod pkr. Unset pkr. Fin POH w/wrk string, 10 3-1/8" DCS & tools. LD same. Unload 126 jts 2-7/8" internally coated tbg. PU internally coated SN, lokset pkr & attachments (on-off tool 2.31 profile). PU prod tbg (internally coated) & RIH w/BHA. Collars are MMS. Tuboscope hand check ea jt. Pmp 140 bbls treated prod wtr dn csg. ND BOPE. Try to set pkr. It would not set. NU BOPS.
DC: \$23,821 TC: \$170,152
- 11/6/87 RR. Set pkr @ 4105' w/18,000# tension. Tst csg to 1000 psi. ND BOPS. Land tbg w/18,000# tension. Load out wrk string. RD. Rack out all equip.
DC: \$11,608 TC: \$181,760

PETROLITE

PETROLITE OIL FIELD CHEMICALS GROUP

369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417**WATER ANALYSIS REPORT**COMPANY Coastal Oil & Gas ADDRESS Altamont, Ut. DATE: 11-3-87SOURCE 2-23B4 (see remarks) DATE SAMPLED 11-3-87 ANALYSIS NO. 1

Analysis

Mg/L

*Meq/L

1. pH	<u>10</u>				
2. H ₂ S (Qualitative)	<u>40 ppm</u>				
3. Specific Gravity	<u>1.030</u>				
4. Dissolved Solids		<u>67,585</u>			
5. Suspended Solids					
6. Phenolphthalein Alkalinity (CaCO ₃)					
7. Methyl Orange Alkalinity (CaCO ₃)		<u>27,500</u>			
8. Bicarbonate (HCO ₃)		HCO ₃ <u>33,550</u>	÷ 61	<u>550</u>	HCO ₃
9. Chlorides (Cl)		Cl <u>12,975</u>	÷ 35.5	<u>365</u>	Cl
10. Sulfates (SO ₄)		SO ₄ <u>75</u>	÷ 48	<u>2</u>	SO ₄
11. Calcium (Ca)		Ca <u>638</u>	÷ 20	<u>32</u>	Ca
12. Magnesium (Mg)		Mg <u>0</u>	÷ 12.2	<u>0</u>	Mg
13. Total Hardness (CaCO ₃)		<u>50</u>			
14. Total Iron (Fe)		<u>.5</u>			
15. Barium (Qualitative)					
16. Strontium					

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca					
Mg					
Na					
Ca (HCO ₃) ₂	81.04		<u>32</u>		<u>2593</u>
Ca SO ₄	68.07				
Ca Cl ₂	55.50				
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19				
Mg Cl ₂	47.62				
Na HCO ₃	84.00		<u>518</u>		<u>43,512</u>
Na ₂ SO ₄	71.03		<u>2</u>		<u>142</u>
Na Cl	58.46		<u>365</u>		<u>21,333</u>

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/LREMARKS water sample drawn from between 5210' - 5831' (63' zones, 292 holes)Respectfully submitted
PETROLITE CORP.

WATER ANALYSIS REPORT

COMPANY Coastal Oil & Gas ADDRESS Altamont DATE: 11-3-87

SOURCE 2-2384 (see remarks) DATE SAMPLED 11-3-87 ANALYSIS NO. 2
Analysis Mg/L *Meq/L

1. pH	<u>10</u>		
2. H ₂ S (Qualitative)	<u>45ppm</u>		
3. Specific Gravity	<u>1.030</u>		
4. Dissolved Solids		<u>65,371</u>	
5. Suspended Solids			
6. Phenolphthalein Alkalinity (CaCO ₃)			
7. Methyl Orange Alkalinity (CaCO ₃)		<u>27,400</u>	
8. Bicarbonate (HCO ₃)		HCO ₃ <u>33,428</u> ÷ 61 <u>548</u> HCO ₃	
9. Chlorides (Cl)		Cl <u>11,699</u> ÷ 35.5 <u>330</u> Cl	
10. Sulfates (SO ₄)		SO ₄ <u>100</u> ÷ 48 <u>2</u> SO ₄	
11. Calcium (Ca)		Ca <u>648</u> ÷ 20 <u>32</u> Ca	
12. Magnesium (Mg)		Mg <u>0</u> ÷ 12.2 <u>0</u> Mg	
13. Total Hardness (CaCO ₃)		<u>50</u>	
14. Total Iron (Fe)		<u>.7</u>	
15. Barium (Qualitative)			
16. Strontium			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04		<u>32</u>		<u>2593</u>
Ca SO ₄	68.07				
Ca Cl ₂	55.50				
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19				
Mg Cl ₂	47.62				
Na HCO ₃	84.00		<u>516</u>		<u>43,300</u>
Na ₂ SO ₄	71.03		<u>2</u>		<u>142</u>
Na Cl	58.46		<u>330</u>		<u>19,200</u>

Saturation Values Distilled Water 20°C
Ca CO₃ 13 Mg/L
Ca SO₄ • 2H₂O 2,090 Mg/L
Mg CO₃ 103 Mg/L

REMARKS water sample drawn from between 4204'-4645' (35' zones, 140 holes)

PETROLITE

PETROLITE OIL FIELD CHEMICALS GROUP

369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417**WATER ANALYSIS REPORT**COMPANY Coastal Oil & Gas ADDRESS Altamont, UT. DATE 11-3-87SOURCE 2-2384 (see remarks) DATE SAMPLED 11-2-87 ANALYSIS NO. 3
Analysis Mg/L *Meq/L

1. pH	<u>10</u>		
2. H ₂ S (Qualitative)	<u>35ppm</u>		
3. Specific Gravity	<u>1.030</u>		
4. Dissolved Solids		<u>64,655</u>	
5. Suspended Solids			
6. Phenolphthalein Alkalinity (CaCO ₃)			
7. Methyl Orange Alkalinity (CaCO ₃)		<u>28,000</u>	
8. Bicarbonate (HCO ₃)		HCO ₃ <u>34,160</u> ÷ 61 <u>560</u> HCO ₃	
9. Chlorides (Cl)		Cl <u>10,635</u> ÷ 35.5 <u>300</u> Cl	
10. Sulfates (SO ₄)		SO ₄ <u>95</u> ÷ 48 <u>2</u> SO ₄	
11. Calcium (Ca)		Ca <u>423</u> ÷ 20 <u>22</u> Ca	
12. Magnesium (Mg)		Mg <u>0</u> ÷ 12.2 <u>0</u> Mg	
13. Total Hardness (CaCO ₃)		<u>50</u>	
14. Total Iron (Fe)		<u>.6</u>	
15. Barium (Qualitative)			
16. Strontium			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

22

0

300

Ca ←

Mg →

Na ←

HCO₃

SO₄

Cl

560

2

300

Compound Equiv. Wt. X Meq/L = Mg/L

Ca (HCO ₃) ₂	81.04		<u>22</u>		<u>1743</u>
Ca SO ₄	68.07				
Ca Cl ₂	55.50				
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19				
Mg Cl ₂	47.62				
Na HCO ₃	84.00		<u>530</u>		<u>45,192</u>
Na ₂ SO ₄	71.03		<u>2</u>		<u>142</u>
Na Cl	58.46		<u>300</u>		<u>17,530</u>

Saturation Values Distilled Water 20°C

Ca CO ₃	13 Mg/L
Ca SO ₄ • 2H ₂ O	2,090 Mg/L
Mg CO ₃	103 Mg/L

Saturation Values Distilled Water 20°C

Ca CO₃ 13 Mg/LCa SO₄ • 2H₂O 2,090 Mg/LMg CO₃ 103 Mg/LREMARKS water drawn from between 4707' - 5186' (29' zones, 116 holes)Respectfully submitted
PETROLITE CORP.

WATER ANALYSIS REPORT

COMPANY Coastal Oil & Gas ADDRESS Altamont, Ut. DATE: 11-3-87

SOURCE 2-23B4 (see remarks) DATE SAMPLED 11-3-87 ANALYSIS NO. 1

Analysis

Mg/L

*Meq/L

1. pH 10
2. H₂S (Qualitative) 40ppm
3. Specific Gravity 1.030
4. Dissolved Solids 67,585
5. Suspended Solids
6. Phenolphthalein Alkalinity (CaCO₃)
7. Methyl Orange Alkalinity (CaCO₃) 27,500
8. Bicarbonate (HCO₃) 33,550
9. Chlorides (Cl) 12,975
10. Sulfates (SO₄) 75
11. Calcium (Ca) 638
12. Magnesium (Mg) 0
13. Total Hardness (CaCO₃) 50
14. Total Iron (Fe) .5
15. Barium (Qualitative)
16. Strontium

HCO ₃	<u>33,550</u>	÷ 61	<u>550</u>	HCO ₃
Cl	<u>12,975</u>	÷ 35.5	<u>365</u>	Cl
SO ₄	<u>75</u>	÷ 48	<u>2</u>	SO ₄
Ca	<u>638</u>	÷ 20	<u>32</u>	Ca
Mg	<u>0</u>	÷ 12.2	<u>0</u>	Mg

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

32	Ca	←	HCO ₃	550	Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
0	Mg	←	SO ₄	2	Ca (HCO ₃) ₂	81.04		32		2593
885	Na	←	Cl	365	Ca SO ₄	68.07				
					Ca Cl ₂	55.50				
					Mg (HCO ₃) ₂	73.17				
					Mg SO ₄	60.19				
					Mg Cl ₂	47.62				
					Na HCO ₃	84.00		518		43,512
					Na ₂ SO ₄	71.03		2		142
					Na Cl	58.46		365		21,333

Saturation Values Distilled Water 20°C
 Ca CO₃ 13 Mg/L
 Ca SO₄ • 2H₂O 2,090 Mg/L
 Mg CO₃ 103 Mg/L

REMARKS water sample drawn from between 5210' - 5831' (63' zones, 252 holes)

Respectfully submitted
PETROLITE CORP.

WATER ANALYSIS REPORT

COMPANY Coastal Oil & Gas ADDRESS Altamont DATE: 11-3-87
 SOURCE 2-23n4 (see remarks) DATE SAMPLED 11-3-87 ANALYSIS NO. 2
 Analysis Mg/L *Meq/L

1. pH 10
 2. H₂S (Qualitative) 45ppm
 3. Specific Gravity 1.030
 4. Dissolved Solids 65,371
 5. Suspended Solids _____
 6. Phenolphthalein Alkalinity (CaCO₃) _____
 7. Methyl Orange Alkalinity (CaCO₃) 27,400
 8. Bicarbonate (HCO₃) HCO₃ 33,428 ÷ 61 548 HCO₃
 9. Chlorides (Cl) Cl 11,699 ÷ 35.5 330 Cl
 10. Sulfates (SO₄) SO₄ 100 ÷ 48 2 SO₄
 11. Calcium (Ca) Ca 648 ÷ 20 32 Ca
 12. Magnesium (Mg) Mg 0 ÷ 12.2 0 Mg
 13. Total Hardness (CaCO₃) 50
 14. Total Iron (Fe) .7
 15. Barium (Qualitative) _____
 16. Strontium _____
 *Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

Compound	Equiv. Wt.	X	Meq/L	=	Mg/L
Ca (HCO ₃) ₂	81.04	<u>32</u>	<u>2593</u>		
Ca SO ₄	68.07				
Ca Cl ₂	55.50				
Mg (HCO ₃) ₂	73.17				
Mg SO ₄	60.19				
Mg Cl ₂	47.62				
Na HCO ₃	84.00	<u>516</u>	<u>43,344</u>		
Na ₂ SO ₄	71.03	<u>2</u>	<u>142</u>		
Na Cl	58.46	<u>330</u>	<u>19,290</u>		

Saturation Values Distilled Water 20°C
 Ca CO₃ 13 Mg/L
 Ca SO₄ • 2H₂O 2,090 Mg/L
 Mg CO₃ 103 Mg/L

REMARKS water sample drawn from between 4204'-4645' (35' zones, 140 holes)

PETROLITE

PETROLITE OIL FIELD CHEMICALS GROUP

369 Marshall Avenue • St. Louis, Missouri 63119
314 961-3500 • TWX 910-760-1660 • Telex: 44-2417

WATER ANALYSIS REPORT

COMPANY Coastal Oil & Gas ADDRESS Altamont, Mt. DATE 11-3-87

SOURCE 2-2394 (see remarks) DATE SAMPLED 11-2-87 ANALYSIS NO. 3
Analysis Mg/L *Meq/L

1. pH	<u>10</u>		
2. H ₂ S (Qualitative)	<u>35ppm</u>		
3. Specific Gravity	<u>1.030</u>		
4. Dissolved Solids		<u>64,655</u>	
5. Suspended Solids			
6. Phenolphthalein Alkalinity (CaCO ₃)			
7. Methyl Orange Alkalinity (CaCO ₃)		<u>28,000</u>	
8. Bicarbonate (HCO ₃)		HCO ₃ <u>34,160</u> ÷ 61	<u>560</u> HCO ₃
9. Chlorides (Cl)		Cl <u>10,635</u> ÷ 35.5	<u>300</u> Cl
10. Sulfates (SO ₄)		SO ₄ <u>95</u> ÷ 48	<u>2</u> SO ₄
11. Calcium (Ca)		Ca <u>423</u> ÷ 20	<u>22</u> Ca
12. Magnesium (Mg)		Mg <u>0</u> ÷ 12.2	<u>0</u> Mg
13. Total Hardness (CaCO ₃)		<u>50</u>	
14. Total Iron (Fe)		<u>.6</u>	
15. Barium (Qualitative)			
16. Strontium			

*Milli equivalents per liter

PROBABLE MINERAL COMPOSITION

22

0

340

REMARKS water drawn from between 4707' - 5186' (29' zones, 116 holes)

Respectfully submitted
PETROLITE CORP.



Norman H. Bangerter
Governor

Dee C. Hansen
Executive Director

Dianne R. Nielson, Ph.D.
Division Director

State of Utah

DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS AND MINING

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340

December 29, 1988

MEMO TO FILE

FROM: Vicky Carney

RE: Brotherson 1-23B4 API # 43 013 30038 SEC 23 T02S R04W
Brotherson 1-23B4R API # 43 013 30483 SEC 23 T02S R04W

The production and the drilling information for these wells was combined. Both files have been sorted and separated into individual files. This action changed the CUM for both wells so the enclosed CUM on the posted sheets cannot be used. Use the work-up sheets or the computer for an accurate ATC.

Brotherson 1-23B4 First production was 1-29-71 in the GRRV producing zone. The well was TA'd in April 1979. The well name was changed to Brotherson 2-23B4 then changed again to Lake Fork 2-23B4. The well is now a Salt Water Disposal well and commenced injection 1-7-88. 1985 FNL 2131 FWL.

Brotherson 1-23B4R This well was drilled as a replacement well for the Brotherson 1-23B4. First production was 5-8-79 in the WSTC producing zone. This well is a producing well as of this date. 0747 FNL 2380 FEL.

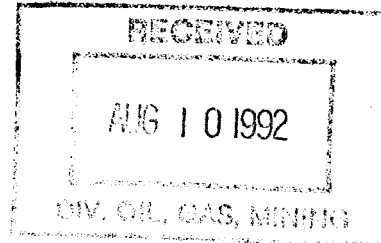


UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VIII

999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

AUG 6 1992



Ref: 8WM-DW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Bill McGaughey
Coastal Oil & Gas Corporation
P. O. Box 120
Altamont, UT 84001

RE: UNDERGROUND INJECTION CONTROL (UIC)
Mechanical Integrity Tests
Class II Saltwater Disposal Wells
Altamont-Bluebell Fields
Duchesne County, Utah

Dear Mr. McGaughey

On July 14, 1992, pressure testing operations were conducted on six (6) saltwater disposal wells; #2-23B4 Lake Fork, #2-27B5 LDS, #2-27A4 Shell Fee, #2-4B3 G. Hanson, #3 James Powell Fee, and #2-11B5 Erich. The testing was witnessed by Chuck Williams and John Carson of my staff along with Rocky Mecham of your office. One of the wells, #2-23B4 Lake Fork, failed to demonstrate mechanical integrity.

Please make arrangements to perform remedial work on the #2-23B4 as soon as possible but no later than 30 days following receipt of this letter.

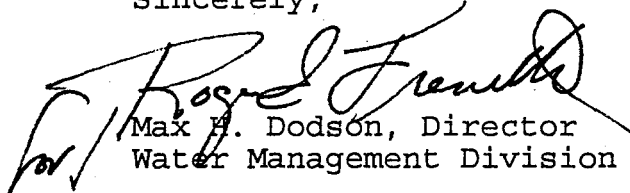
A mechanical integrity test (MIT) must be performed and witnessed by authorized representatives of the EPA prior to commencement of injection. The #2-23B4 must pass the test, thereby demonstrating the absence of leaks in the casing, packer, and/or tubing. A Well Rework Record (EPA Form 7520-12) must also be submitted.

I would also like to take this time to thank Mr. Rocky Mecham of your field office for accompanying Mr. Williams and Mr. Carson during these tests. His knowledge and cooperation greatly speeded up the testing procedures and afforded them more time elsewhere.

Mr. Bill McGaughey
Coastal Oil & Gas Corporation
Page 2

Please direct all correspondence concerning this action to the attention of Chuck Williams at the above letterhead address, MAIL CODE 8WM-DW, or telephone Mr. Williams at (303) 293-1550. Thank you for your continued cooperation.

Sincerely,


Max H. Dodson, Director
Water Management Division

cc: Mr. Les P. Streeb
Coastal Oil & Gas Corporation
P. O. Box 0749
Denver, CO 80201-0749

Mr. Ferron Secakuku
Energy and Minerals Resource Dept.
Ute Indian Tribe

Mr. Charles Cameron
Uinta and Ouray Agency
Bureau of Indian Affairs

Mr. Gil Hunt
State of Utah Natural Resources
DOGM



WELL REWORK RECORD

RECEIVED

OCT 16 1992

NAME AND ADDRESS OF PERMITTEE

ANR Production Company
P.O. Box 749
Denver, CO 80201-0749

NAME AND ADDRESS OF CONTRACTOR

ANR Production Company
P.O. Box 749
Denver, CO 80201-0749DIVISION OF
OIL, GAS & MININGLOCATE WELL AND OUTLINE UNIT ON
SECTION PLAT — 640 ACRES

STATE

UT

COUNTY

Duchesne

PERMIT NUMBER

SURFACE LOCATION DESCRIPTION

SW 1/4 OF SW 1/4 OF NE 1/4 SECTION 23 TOWNSHIP 2S RANGE 4W

LOCATE WELL IN TWO DIRECTIONS FROM NEAREST LINES OF QUARTER SECTION AND DRILLING UNIT

Surface Location 1985 ft. from (N/S) XX N Line of quarter section
and 2131 ft. from (E/W) E Line of quarter section

WELL ACTIVITY

- ☒
- Brine Disposal
-
- ☐
- Enhanced Recovery
-
- ☐
- Hydrocarbon Storage

Lease Name

Lake Fork

Total Depth Before Rework

11,232'

Total Depth After Rework

11,232'

Date Rework Commenced

9/1/92

Date Rework Completed

9/14/92

TYPE OF PERMIT

- ☒
- Individual
-
- ☐
- Area
-
- Number of Wells _____

Well Number

2-23B4

43-013-20038

WELL CASING RECORD — BEFORE REWORK

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	
9-5/8"	2450'	760	cmt			
7"	9905'	525	cmt			
5"	9489-11232'	180	cmt			
Tbg 2-7/8"	4109'					

WELL CASING RECORD — AFTER REWORK (Indicate Additions and Changes Only)

Casing		Cement		Perforations		Acid or Fracture Treatment Record
Size	Depth	Sacks	Type	From	To	

DESCRIBE REWORK OPERATIONS IN DETAIL
USE ADDITIONAL SHEETS IF NECESSARY

WIRE LINE LOGS, LIST EACH TYPE

Log Types	Logged Intervals
Mechanical Integrity Test, Repaired tubing leak.	
See attached report.	

CERTIFICATION

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32).

NAME AND OFFICIAL TITLE (Please type or print)

Eileen Danni Dey
Regulatory Analyst

SIGNATURE

DATE SIGNED

10/14/92

THE COASTAL CORPORATION
PRODUCTION REPORT

CHRONOLOGICAL HISTORY

LAKEFORK #2-23B4 SWD
ALTAMONT/BLUEBELL FIELD
DUCHESNE COUNTY, UTAH

PAGE 1

- 9/1/92 Test tbg - 3-1/2 - lined. RU Delsco swab unit. Make gauge ring run thru pkr (4090'±) and thru SN @ 4096'±. RU - run standing valve and set in SN. Test tbg & csg individually. Confirm tbg leak. POOH w/standing valve. Return to injection. Max test psi = 1200#. Drop from report.
TC: \$840
- 9/10/92 Kill well - pull tbg. Move to location w/rig & equip. Set equip. Stand up rig. Get rigged up to pull tbg.
DC: \$2,695 TC: \$2,695
- 9/11/92 Kill well, POOH, hyd test tbg. Pump down 3-1/2" tbg w/10# brine wtr - 40 bbls. Tbg dead. Remove X-mas tree. Strip on 6" BOP. Release off Mtn States on/off tool. Flow well back. Wouldn't die. Pull up - change seals in top sub & top jt. Run back down. Latch onto on/off tool. Try to press test tbg down csg - leaks. Put wellhead back together. Hookup to inject into well.
DC: \$3,335 TC: \$6,030
- 9/12/92 Inject well taking fluid. Hot oiler had 3-1/2" tbg dead. Remove X-mas tree. Strip on BOP. Release on/off tool. Pump 100 bbls 10# brine wtr down csg. Well's dead. POOH w/tbg, etc. Change seals on even # jts as POOH. Re-dress on/off seal connector. RU 4-Star hyd tester. RIH w/3-1/2" coated tbg. Drifting & hyd testing to 4500# as RIH. Run on/off tool - 132 jts 3-1/2" tbg, 10' sub - no leaks. Circ down csg w/3% KCl & pkr clean - 120 bbls. Latch onto on/off tool. Press test down csg to 1700#. Held 15 min - no leaks. Strip off BOP. Screw on 6" wellhead. Land tbg w/10,000# compression on tbg.
DC: \$5,100 TC: \$11,130
- 9/14/92 Well taking fluid. RDMO. Drop from report.
DC: \$1,770 TC: \$12,900

RECEIVED

OCT 16 1992

DIVISION OF
OIL, GAS & MINING

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No.

14-20-H62-1804

6. If Indian, Allottee or Tribe Name

Ute Tribal

7. If Unit or CA, Agreement Designation

N/A

8. Well Name and No.

Ute #2-35A3

9. API Well No.

43-013-31292

10. Field and Pool, or Exploratory Area

Bluebell

11. County or Parish, State

Duchesne County, UT

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

ANR Production Company

3. Address and Telephone No.

P. O. Box 749 Denver, CO 80201-0749 (303) 573-4476

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

660' FNL & 660' FEL (NE/NE)
Section 35, T1S-R3W

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other NTL-2B; II Application
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

ANR Production Company hereby requests permission to dispose of produced water from the above referenced well under NTL-2B, II "Disposal in the Subsurface". The produced water from the Ute #2-35A3 flows into a steel tank equipped with a high level float switch which shuts the well in if the tank becomes overloaded. The produced water is then pumped into ANR's underground SWD facilities. These facilities consist of the following five State/EPA approved SWD wells:

LDS Church #2-27B5	Section 27, T2S-R5W	Duchesne County, UT
Shell #2-27A4	Section 27, T1S-R4W	Duchesne County, UT
Lakefork #2-23B4	Section 23, T2S-R4W	Duchesne County, UT
Ehrich #2-11B5	Section 11, T2S-R5W	Duchesne County, UT
Hanson #2-4B3	Section 4, T2S-R3W	Duchesne County, UT

RECEIVED

Accepted by the State
of Utah Division of
Oil, Gas and Mining

APR 19 1993

DIVISION OF
OIL, GAS AND MINING

Date: 4-23-93

By: [Signature]

Signed [Signature]
(This space for Federal or State office use)

Title Regulatory Analyst

Date 4/15/93

Approved by [Signature]
Conditions of approval, if any: Action is Necessary

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well
☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
ANR Production Company

3. Address and Telephone No.
P. O. Box 749 Denver, CO 80201-0749 (303) 573-4476

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
1632' FNL & 660' FWL (SW/NW)
Section 35, T1S-R3W

5. Lease Designation and Serial No.

14-20-H62-1804

6. If Indian, Allottee or Tribe Name

Ute Tribe

7. If Unit or CA, Agreement Designation

N/A

8. Well Name and No.

Ute Tribal 3-35A3

9. API Well No.

43-013-31365

10. Field and Pool, or Exploratory Area

Altamont/Bluebell

11. County or Parish, State

Duchesne County, UT

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other NTL-2B; II Application
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

ANR Production Company hereby requests permission to dispose of produced water from the above referenced well under NTL-2B, II "Disposal in the Subsurface". The produced water from the Ute Tribal #3-35A3 flows into a steel tank equipped with a high level float switch which shuts the well in if the tank becomes overloaded. The produced water is then pumped into ANR's underground SWD facilities. These facilities consist of the following five State/EPA approved SWD wells:

LDS Church #2-27B5	Section 27, T2S-R5W	Duchesne County, UT
Shell #2-27A4	Section 27, T1S-R4W	Duchesne County, UT
Lakefork #2-23B4	Section 23, T2S-R4W	Duchesne County, UT
Ehrich #2-11B5	Section 11, T2S-R5W	Duchesne County, UT
Hanson #2-4B3	Section 4, T2S-R3W	Duchesne County, UT

RECEIVED

APR 19 1993

DIVISION OF
OIL GAS & MINING

Accepted by the State
of Utah Division of
Oil, Gas and Mining

Date: 4-23-93

By: [Signature]

14. I hereby certify that the foregoing is true and correct

Signed Eileen Danni Day
(This space for Federal or State office use)

Title Regulatory Analyst

Date 4/15/93

Approved by [Signature]
Conditions of approval, if any: Federal Approval of this Action is Necessary

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

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Use "APPLICATION FOR PERMIT—" for such proposals

SUBMIT IN TRIPLICATE

RECEIVED

APR 19 1993

DIVISION OF
OIL GAS & MINING
(303) 573-4476

5. Lease Designation and Serial No.
14-20-H62-1807

6. If Indian, Allottee or Tribe Name
Uintah & Ouray Tribes

7. If Unit or CA, Agreement Designation
N/A

8. Well Name and No.
Ute #2-6B2

9. API Well No.
43-013-31140

10. Field and Pool, or Exploratory Area
Bluebell/Altamont

11. County or Parish, State
Duchesne County, UT

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator
ANR Production Company

3. Address and Telephone No.
P. O. Box 749 Denver, CO 80201-0749

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)
949' FNL & 1001' FWL (NW/NW)
Section 6, T2S-R2W

12. CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other NTL 2B; II Application
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ANR Production Company hereby requests permission to dispose of produced water from the above referenced well under NTL-2B, II "Disposal in the Subsurface". The produced water from the Ute #2-6B2 flows into a steel tank equipped with a high level float switch which shuts the well in if the tank becomes overloaded. The produced water is then pumped into ANR's underground SWD facilities. These facilities consist of the following five State/EPA approved SWD wells:

LDS Church #2-27B5	Section 27, T2S-R5W	Duchesne County, UT
Shell #2-27A4	Section 27, T1S-R4W	Duchesne County, UT
Lakefork #2-23B4	Section 23, T2S-R4W	Duchesne County, UT
Ehrich #2-11B5	Section 11, T2S-R5W	Duchesne County, UT
Hanson #2-4B3	Section 4, T2S-R3W	Duchesne County, UT

RECEIVED

APR 16 1993

Accepted by the State
of Utah Division of Oil, Gas & Mining

Date: 4-23-93

14. I hereby certify that the foregoing is true and correct

Signed Eileen Danni Day
(This space for Federal or State office use)

Title Regulatory Analyst

Date 4/15/93

Approved by Federal Approval of this
Conditions of approval, if any: Action is Necessary

Title

Date

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See instruction on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT" - for such proposals

5. Lease Designation and Serial No.

Patented

6. If Indian, Alottee or Tribe Name

7. If Unit or CA, Agreement Designation

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other SWD

8. Well Name and No.

Lake Fork #2-23B4 SWD

2. Name of Operator

ANR Production Company

9. API Well No.

43-013-30038

3. Address and Telephone No.

P. O. Box 749, Denver, CO 80201-0749

(303) 573-4476

10. Field and Pool, Or Exploratory Area

Altamont

4. Location of Well (Footage, Sec., T., R., M., Or Survey Description)

1985' FNL & 2131' FEL

Section 23-T2S-R4W

11. County or Parish, State

Duchesne Co., UT

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

- ☐ Notice of Intent
☒ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other Skimming Storage Tanks
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markets and zones pertinent to this work.)*

Skimmed 470 bbls +/- and stored in frac master tank. Taylor Transportation checked field and showed 2% BSW/iron sulfide, remainder black water. Hauled to RNI by Tanger Trucking 6/1/94.

14. I hereby certify that the foregoing is true and correct

Signed M.D. Ernest Title Area Production Superintendent Date 06/3/94
M.D. Ernest

(This space for Federal or State office use)

APPROVED BY

Title

Date

Conditions of approval, if any:

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*See Instruction on Reverse Side



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Ted Stewart
Executive Director

James W. Carter
Division Director

355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203
801-538-5340
801-359-3940 (Fax)
801-538-5319 (TDD)

June 30, 1994

Coastal Oil & Gas
P.O. Box 120
Altamont, Utah 84001

Re: Pressure Test for Mechanical Integrity, Powell Fee #3, Shell Fee 2-27A4 and Lake Fork 2-23B4, Injection Wells, Sec. 13, T. 1 S., R. 2 W., Sec. 27, T. 1 S., R. 4 W., and Sec. 23, T. 2 S., R. 4 W., Duchesne County, Utah

Gentlemen:

The Underground Injection Control Program which the Division of Oil, Gas and Mining (DOGM) administers in Utah, requires that all Class II injection wells demonstrate mechanical integrity. Rule R649-5-5.3 of the Oil and Gas Conservation General Rules requires that the casing-tubing annulus above the packer be pressure tested at a pressure equal to the maximum authorized injection pressure or 1,000 psi, whichever is lesser, provided that no test pressure is less than 300 psi. This test shall be performed at least every five year period beginning October, 1982. Our records indicate the above referenced wells are due for testing. Please make arrangements and ready the well for testing during the week of July 18, 1994 as outlined below:


1. Operator must furnish connections, and accurate pressure gauges, hot oil truck (or other means of pressuring annulus), as well as personnel to assist in opening valves etc.
2. The casing-tubing annulus shall be filled prior to the test date to expedite testing, as each well will be required to hold pressure for a minimum of 15 minutes.
3. If mechanical difficulties or workover operations make it impossible for the wells to be tested on this date the tests may be rescheduled.

Page 2
Pressure Test
June 30, 1994

4. Company personnel should meet DOGM representatives at the field office or other location as negotiated.
5. All bradenhead valves with exception of the tubing on the injection wells must be shut in 24 hours prior to testing.

Please contact Dan Jarvis at (801)538-5340 to arrange a meeting time and place or negotiate a different date if this one is unacceptable.

Sincerely,

A handwritten signature in black ink, appearing to read 'Gil Hunt', with a long horizontal flourish extending to the right.

Gil Hunt
UIC Program Manager

ldc
Attachment
WOI52

STATE OF UTAH
Division of Oil, Gas and Mining
355 West North Temple
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

INJECTION WELL - PRESSURE TEST

Test Date: <u>7/19/94</u>	Well Owner/Operator: <u>ARK</u>
Disposal Well: <u>X</u>	Enhanced Recovery Well: _____ Other: _____
API No.: 43- <u>013-30038</u>	Well Name/Number: <u>LAKE Fork 2-23 B4</u>
Section: <u>23</u>	Township: <u>2 South</u> Range: <u>4 West</u>

Initial Conditions:

Tubing - Rate: _____ Pressure: _____ psi

Casing/Tubing Annulus - Pressure: _____ psi

Conditions During Test:

<u>Time (Minutes)</u>	<u>Annulus Pressure</u>	<u>Tubing Pressure</u>
0	<u>1000</u>	_____
5	<u>1000</u>	_____
10	<u>1000</u>	_____
15	<u>1000</u>	_____
20	_____	_____
25	_____	_____
30	_____	_____

Results: Pass/Fail

Conditions After Test:

Tubing Pressure: _____ psi

Casing/Tubing Annulus Pressure: _____ psi

REMARKS:

Passed MIT

Rock Muehler
Operator Representative

D. Jensen
DOGM Witness

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT" - for such proposals

5. Lease Designation and Serial No.

Patented

6. If Indian, Alottee or Tribe Name

7. If Unit or CA, Agreement Designation

8. Well Name and No.

Lake Fork #2-23B4 SWD

9. API Well No.

43-013-30038

10. Field and Pool, Or Exploratory Area

Altamont

11. County or Parish, State

Duchesne Co., UT

SUBMIT IN TRIPLICATE

1. Type of Well

☐ Oil Well ☐ Gas Well ☒ Other **SWD**

2. Name of Operator

ANR Production Company

3. Address and Telephone No.

P. O. Box 749, Denver, CO 80201-0749

(303) 573-4476

4. Location of Well (Footage, Sec., T., R., M., Or Survey Description)

1985' FNL & 2131' FEL

Section 23-T2S-R4W

12. **CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA**

TYPE OF SUBMISSION

- ☒ Notice of Intent
☐ Subsequent Report
☐ Final Abandonment Notice

TYPE OF ACTION

- ☐ Abandonment
☐ Recompletion
☐ Plugging Back
☐ Casing Repair
☐ Altering Casing
☒ Other **Acid Stimulate**
☐ Change of Plans
☐ New Construction
☐ Non-Routine Fracturing
☐ Water Shut-Off
☐ Conversion to Injection
☐ Dispose Water

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markets and zones pertinent to this work.)*

Acidize SWD w/16,800 gals. of acid.

APPROVED BY THE STATE
OF UTAH DIVISION OF
OIL, GAS, AND MINING

DATE: **9/17/94**

BY: **[Signature]**

SEP - 8

14. I hereby certify that the foregoing is true and correct

Signed **N.O. Shiflett** Title **District Drilling Manager** Date **09/02/94**

N.O. Shiflett

(This space for Federal or State office use)

APPROVED BY

Conditions of approval, if any:

Title

Date

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***See Instruction on Reverse Side**

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, deepen existing wells, or to reenter plugged and abandoned wells.

Use APPLICATION FOR PERMIT TO DRILL OR DEEPEN form for such proposals.

1. Type of Well:

OIL ☒ GAS ☐ OTHER:

2. Name of Operator:

Coastal Oil & Gas Corporation

3. Address and Telephone Number:

P.O. Box 749, Denver, CO 80201-0749

(303) 573-4455

4. Location of Well

Footages: See Attached

QQ, Sec., T., R., M.: See Attached

5. Lease Designation and Serial Number:

See Attached

6. If Indian, Allottee or Tribe Name:

See Attached

7. Unit Agreement Name:

See Attached

8. Well Name and Number:

See Attached

9. API Well Number:

See Attached

10. Field and Pool, or Wildcat:

See Attached

County: See Attached

State: Utah

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

NOTICE OF INTENT

(Submit In Duplicate)

- | | |
|--|---|
| <input type="checkbox"/> Abandon | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Repair Casing | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Recompletion |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Perforate |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Multiple Completion | <input type="checkbox"/> Water Shut-Off |
| <input type="checkbox"/> Other _____ | |

Approximate date work will start _____

SUBSEQUENT REPORT

(Submit Original Form Only)

- | | |
|--|---|
| <input type="checkbox"/> Abandon * | <input type="checkbox"/> New Construction |
| <input type="checkbox"/> Repair Casing | <input type="checkbox"/> Pull or Alter Casing |
| <input type="checkbox"/> Change of Plans | <input type="checkbox"/> Perforate |
| <input type="checkbox"/> Convert to Injection | <input type="checkbox"/> Vent or Flare |
| <input type="checkbox"/> Fracture Treat or Acidize | <input type="checkbox"/> Water Shut-Off |
| <input checked="" type="checkbox"/> Other Change of Operator | |

Date of work completion _____

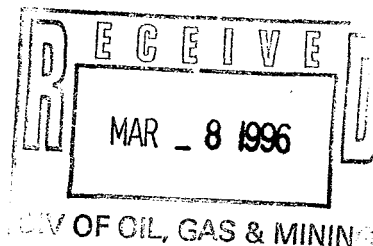
Report results of **Multiple Completions** and **Recompletions** to different reservoirs on WELL COMPLETION OR RECOMPLETION REPORT AND LOG form.

* Must be accompanied by a cement verification report.

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)

Please be advised that effective December 27, 1995, ANR Production Company relinquished and Coastal Oil & Gas Corporation assumed operations for the subject wells (see attached). Bond coverage pursuant to 43 CFR 3104 for lease activities is being provided by Coastal Oil & Gas Corporation under the following bonds: State of Utah #102103, BLM Nationwide Bond #U605382-9, and BIA Nationwide Bond #11-40-66A. Coastal Oil & Gas Corporation, as operator, agrees to be responsible under the terms and conditions of the leases for the operations conducted upon leased lands.

Bonnie Carson
Bonnie Carson, Sr. Environmental & Safety Analyst
ANR Production Company



13.

Name & Signature:

Sheila Bremer

Sheila Bremer

Environmental & Safety Analyst

Title: Coastal Oil & Gas Corporation

Date: 03/07/96

(This space for State use only)

TRANSFER OF AUTHORITY TO INJECT - UIC FORM 5

Well name and number: Lake Fork #2-23B4 SWD
Field or Unit name: Altamont API no. 43-013-30038
Well location: QQ SWNE section 23 township 2S range 4W county Duchesne
Effective Date of Transfer: 12/27/95

CURRENT OPERATOR

Transfer approved by:

Name Bonnie Carson Company ANR Production Company
Signature Bonnie Carson Address P.O. Box 749
Title Sr. Environmental & Safety Analyst Denver, CO 80201-0749
Date 3/7/96 Phone (303) 573-4476

Comments:

NEW OPERATOR

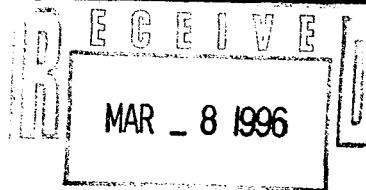
Transfer approved by:

Name Sheila Bremer Company Coastal Oil & Gas Corporation
Signature Sheila Bremer Address P.O. Box 749
Title Environmental & Safety Analyst Denver, CO 80201-0749
Date 3/7/96 Phone (303) 573-4455

Comments:

(State use only)

Transfer approved by [Signature] Title Environ. Manager
Approval Date 3-11-96



Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

Routing: <i>CH</i>	
1	<i>LEC 7-51</i>
2	<i>DTS 8-FILE</i>
3	<i>VLD</i>
4	<i>RJT</i>
5	<i>LEC</i>
6	<i>FILM</i>

Attach all documentation received by the division regarding this change.
 Initial each listed item when completed. Write N/A if item is not applicable.

- ☒ Change of Operator (well sold) ☐ Designation of Agent
☐ Designation of Operator ☐ Operator Name Change Only

The operator of the well(s) listed below has changed (EFFECTIVE DATE: 12-27-95)

TO (new operator) COASTAL OIL & GAS CORP
 (address) PO BOX 749
DENVER CO 80201-0749
 phone (303) 572-1121
 account no. N 0230 (B)

FROM (former operator) ANR PRODUCTION CO INC
 (address) PO BOX 749
DENVER CO 80201-0749
 phone (303) 572-1121
 account no. N0675

Well(s) (attach additional page if needed):

Name: **SEE ATTACHED**	API: <u>013-30038</u>	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____
Name: _____	API: _____	Entity: _____	Sec _____	Twp _____	Rng _____	Lease Type: _____

OPERATOR CHANGE DOCUMENTATION

- lec* 1. (Rule R615-8-10) Sundry or other legal documentation has been received from former operator (Attach to this form). *(Rec'd 3-8-96)*
- lec* 2. (Rule R615-8-10) Sundry or other legal documentation has been received from new operator (Attach to this form). *(Rec'd 3-8-96)*
- N/A* 3. The Department of Commerce has been contacted if the new operator above is not currently operating any wells in Utah. Is company registered with the state? (yes/no) _____ If yes, show company file number: _____
- N/A* 4. (For Indian and Federal Wells ONLY) The BLM has been contacted regarding this change (attach Telephone Documentation Form to this report). Make note of BLM status in comments section of this form. Management review of **Federal and Indian** well operator changes should take place prior to completion of steps 5 through 9 below.
- lec* 5. Changes have been entered in the Oil and Gas Information System (Wang/IBM) for each well listed above. *(3-11-96) (4-3-96/Indian) (4-15-96/Fed C.A.'s) (8-20-96/Indian C.A.'s)*
- lec* 6. Cardex file has been updated for each well listed above.
- lec* 7. Well file labels have been updated for each well listed above.
- lec* 8. Changes have been included on the monthly "Operator, Address, and Account Changes" memo for distribution to State Lands and the Tax Commission. *(3-11-96)*
- lec* 9. A folder has been set up for the Operator Change file, and a copy of this page has been placed there for reference during routing and processing of the original documents.

ENTITY REVIEW

- Yes 1. (Rule R615-8-7) Entity assignments have been reviewed for all wells listed above. Were entity changes made? (yes/no) no (If entity assignments were changed, attach copies of Form 6, Entity Action Form).
- N/A 2. State Lands and the Tax Commission have been notified through normal procedures of entity changes.

BOND VERIFICATION (Fee wells only) Surety No. U605382-1 (\$80,000) United Pacific Ins. Co.

- Yes 1. (Rule R615-3-1) The new operator of any fee lease well listed above has furnished a proper bond.
2. A copy of this form has been placed in the new and former operators' bond files. ** Upon Compl. of routing.*
- Yes 3. The former operator has requested a release of liability from their bond (yes/no) no. Today's date March 11, 1996. If yes, division response was made by letter dated 19 . *(Same Bond as Coastal)*

LEASE INTEREST OWNER NOTIFICATION RESPONSIBILITY

- N/A 1. (Rule R615-2-10) The former operator/lessee of any fee lease well listed above has been notified by letter dated 19 , of their responsibility to notify any person with an interest in such lease of the change of operator. Documentation of such notification has been requested.
2. Copies of documents have been sent to State Lands for changes involving State leases.

FILMING

- Yes 1. All attachments to this form have been microfilmed. Date: 1-7 1997.

FILING

1. Copies of all attachments to this form have been filed in each well file.
2. The original of this form and the original attachments have been filed in the Operator Change file.

COMMENTS

9/60311 This change involves Fee lease / non C.A. wells ~~only~~ in state lease wells.
C.A. & Indian lease wells will be handled on separate change.

9/60412 BLM / SL Aprv. C.A.'s 4-11-96.

9/60820 BIA Aprv. CA's 8-16-96.

9/60329 BIA Aprv. Indian Lease wells 3-26-96.

WE71/34-35 * 9/61107 Lemicy 2-582 / 43-013-30784 under review at this time; no chg. yet!

Well Name & No.	API No.	Lease Designation & Serial Number	If Indian, Allottee or Tribe Name	CA No.	LOCATION OF WELL		Field	County
					Footages	Section, Township & Range		
Ute 1-31A2	43-013-30401	14-20-H62-1801 1925	Ute	N/A	2246' FSL & 2270' FWL	NESW, 31-1S-2W	Bluebell	Duchesne
Ute 1-32Z2	43-013-30379	14-20-H62-1702 1915	Ute	N/A	1484' FNL & 2554' FWL	SENE, 32-1N-2W	Bluebell	Duchesne
Ute 1-36B6	43-013-30502	14-20-H62-2532 1940	Ute	N/A	1212' FSL & 487' FEL	SESE, 36-2S-6W	Altamont	Duchesne
Ute 1-6B2	43-013-30349	14-20-H62-1807 1825	Ute	N/A	2052' FSL & 1865' FEL	NWSE, 6-2S-2W	Bluebell	Duchesne
Ute 2-22B5	43-013-31122	14-20-H62-2509 10453	Ute	N/A	737' FSL & 1275' FWL	SWSW, 22-2S-5W	Altamont	Duchesne
Ute 2-25A3	43-013-31343	14-20-H62-1802 11361	Ute	N/A	2183' FSL & 1342' FWL	NESW, 25-1S-3W	Bluebell	Duchesne
Ute 2-26A3	43-013-31340	14-20-H62-1803 11349	Ute	N/A	700' FSL & 700' FWL	SWSW, 26-1S-3W	Bluebell	Duchesne
Ute 2-27B6	43-013-31449	14-20-H62-4631 11620	Ute	N/A	1727' FNL & 1904' FEL	SWNE, 27-2S-6W	Altamont	Duchesne
Ute 2-28B6	43-013-31434	14-20-H62-4622 11624	Ute	N/A	1945' FSL & 1533' FEL	NWSE, 28-2S-6W	Altamont	Duchesne
Ute 2-31A2	43-013-31139	14-20-H62-1801 10458	Ute	N/A	1012' FNL & 1107' FEL	NENE, 31-1S-2W	Bluebell	Duchesne
Ute 2-33B6	43-013-31445	14-20-H62-2493 11691	Ute	N/A	1796' FNL & 2541' FEL	SWNE, 33-2S-6W	Altamont	Duchesne
Ute 2-35A3	43-013-31292	14-20-H62-1804 11222	Ute	N/A	660' FNL & 660' FEL	NENE, 35-1S-3W	Bluebell	Duchesne
Ute 2-6B2	43-013-31140	14-20-H62-1807 11190	Ute	N/A	949' FNL & 1001' FWL	NWNW, 6-2S-2W	Bluebell	Duchesne
Ute 3-35A3	43-013-31365	14-20-H62-1804 11454	Ute	N/A	1632' FNL & 660' FWL	SWNW, 35-1S-3W	Bluebell	Duchesne
Ute Tribal 1-27B6	43-013-30517	14-20-H62-4631 111610	Ute	N/A	2312' FNL & 1058 FWL	SWNW, 27-2S-6W	Altamont	Duchesne
Ute Tribal 1-28B6	43-013-30510	14-20-H62-4622 11165	Ute	N/A	860 FNL & 2381' FEL	NWNE, 28-2S-6W	Altamont	Duchesne
Ute Tribal 1-33B6	43-013-30441	14-20-H62-2493 1230	Ute	N/A	350' FSL & 2400' FEL	SWSE, 33-2S-6W	Altamont	Duchesne
Ute Tribal 1-35B6	43-013-30507	14-20-H62-4632 2335	Ute	N/A	1248' FEL & 1350' FSL	NESE, 35-2S-6W	Altamont	Duchesne
OIL/GAS WELLS PERMITTED - NOT DRILLED								
Ute 1-16B6	43-013-31524	14-20-H62-4647 99999	Ute	N/A	2424' FNL & 1590' FEL	SWNE, 16-2S-6W	Altamont	Duchesne
Ute 1-23B6	43-013-31446	14-20-H62-4614 99999	Ute	N/A	1894' FSL & 735' FWL	NWSW, 23-2S-6W	Altamont	Duchesne
Ute 1-26B6	43-013-31447	14-20-H62-4614 99999	Ute	N/A	205' FNL & 2485' FWL	NENW, 26-2S-6W	Altamont	Duchesne
Ute 2-26B6	43-013-31448	14-20-H62-4614 99999	Ute	N/A	663' FSL & 697' FWL	SWSW, 26-2S-6W	Altamont	Duchesne
SALT WATER DISPOSAL WELLS								
Lake Fork 2-23B4 SWD	43-013-30038	Patented 1970	N/A	N/A	1985' FNL & 2131' FEL	SWNE, 23-2S-4W	Altamont	Duchesne
LDS Church 2-27B5 SWD	43-013-30340	Fee 99990	N/A	N/A	551' FSL & 2556' FEL	SWSE, 27-2S-4W	Altamont	Duchesne
Ehrich 2-11B5 SWD	43-013-30391	Fee 99990	N/A	N/A	1983' FSL & 1443' FWL	NESW, 11-2S-5W	Altamont	Duchesne
Hanson 2-4B3 SWD	43-013-30337	Fee 99990	N/A	N/A	641' FSL & 1988' FWL	SESW, 4-2S-3W	Altamont	Duchesne
Shell 2-27A4 SWD	43-013-30266	Fee 99990	N/A	46108	58' FSL & 1186' FWL	SWSW, 27-1S-4W	Altamont	Duchesne
Tew 1-9B5 SWD	43-013-30121	Patented 1675	N/A	N/A	2334' FNL & 1201' FEL	SENE, 9-2S-5W	Altamont	Duchesne

COASTAL

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
Budget Bureau No. 1004-0135

Expires: March 31, 1993

5. Lease Designation and Serial No.

Fee

6. If Indian, Alottee or Tribe Name

N/A

7. If Unit or CA, Agreement Designation

CA #9674

8. Well Name and No.

Brown #2-28B5

9. API Well No.

43-013-30038

10. Field and Pool, Or Exploratory Area

Altamont

11. County or Parish, State

Duchesne County, UT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.

Use "APPLICATION FOR PERMIT" - for such proposals

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil Well ☐ Gas Well ☐ Other

2. Name of Operator

Coastal Oil & Gas Corporation

3. Address and Telephone No.

P. O. Box 749, Denver, CO 80201-0749

(303) 573-4455

4. Location of Well (Footage, Sec., T., R., M., Or Survey Description)

1985' FNL & 2131' FEL

SW/NE Section 23-T2S-R4W

12. CHECK APPROPRIATE BOX(S) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

TYPE OF ACTION

☐ Notice of Intent

☒ Subsequent Report

☐ Final Abandonment Notice

☐ Abandonment

☐ Recompletion

☐ Plugging Back

☐ Casing Repair

☐ Altering Casing

☒ Other SWD Flowline installation

☐ Change of Plans

☐ New Construction

☐ Non-Routine Fracturing

☐ Water Shut-Off

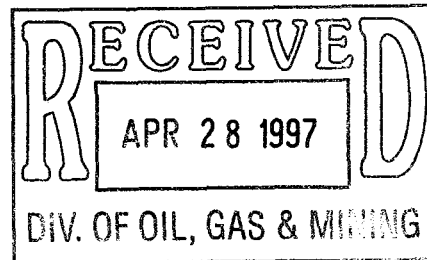
☐ Conversion to Injection

☐ Dispose Water

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markets and zones pertinent to this work.)*

A SWD flowline has been installed on the subject well. All applicable damage settlements have been made.



14. I hereby certify that the foregoing is true and correct

Signed Sheila Bremer Title Environmental & Safety Analyst Date 04/24/97

(This space for Federal or State office use)

APPROVED BY _____ Title _____ Date _____
Conditions of approval, if any:

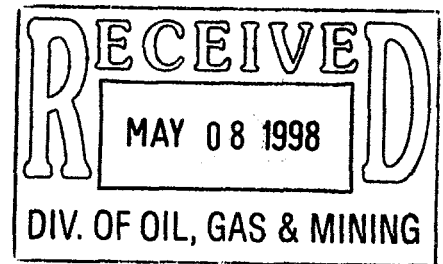
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side



Coastal
The Energy People

May 6, 1998



Mechanical Integrity Tests
Altamont/Bluebell Field
Duchesne County, Utah

Mr. John Carson
Environmental Protection Agency
999 18th Street, Suite 500
Mail Code: 8ENF-T
Denver, Colorado 80202-2466

Dear Mr. Carson:

Attached please find the mechanical integrity tests for the following wells:

Lake Fork #2-23B4	43-013-30038
Hanson #2-4B3	43-013-30337
LDS Church #2-27B5	43-013-30340
Erich #2-11B5	43-013-30391

As you know, the Lake Fork #2-23B4 SWD was unable to maintain pressure during the mechanical integrity test. In order to check for any leaks, a pressure integrity was performed on the casing. There was 0# of pressure at the start of the casing pressure integrity test, pressure was increased to 1000#, and the pressure then decreased to 750# in 15 minutes. The pressure was then bleed off and the well was checked for flow -- no flow was detected. (Normal tubing injection pressure for this well is 900#.) As agreed upon in our conversation this afternoon, Coastal will monitor the casing annulus pressure on the Lake Fork #2-23B4 SWD on a daily basis for two weeks. The monitoring results will then be submitted to the EPA for review.

If you have any questions, please call me at (303) 573-4455.

Sincerely,

Sheila Bremer
Environmental & Safety Analyst

Attachments

cc: Dan Jarvis - State of Utah
Les Streeb
Bill McGaughey

Coastal Oil & Gas Corporation

A SUBSIDIARY OF THE COASTAL CORPORATION
600 17TH ST • STE 800 S • P O BOX 749 • DENVER CO 80201-0749 • 303 572-1121

Mechanical Integrity Test Casing or Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program, UIC Implementation Section, ERM-DW
999 13th Street, Suite 500, Denver, CO 80202-2166

EPA Witness: _____

Date: 5/5/98 Time: 9:55 (AM/PM)Test conducted by: HAC BLANCHARD

Others present: _____

Well: LAKE FORK 2-23 B4

Well ID: _____

Field: ALTAMONT

Company: COASTAL

Well location: SW - SW - NE sec 23
T2S R4W

Address: ALTAMONT UT.

Time	Test #1	Test Time 11:10 PM Test #2	Test #3
0 min	<u>1000</u> psig	<u>1000</u> psig	_____ psig
5	<u>950</u>	<u>850</u>	_____ psig
10	<u>900</u>	<u>750</u>	_____ psig
15	<u>850</u>	<u>650</u>	_____ psig
20	<u>775</u>	<u>600</u>	_____ psig
25	<u>750</u>	<u>550</u>	_____ psig
30 min	<u>700</u>	<u>525</u>	_____ psig
35	_____	_____	_____ psig
40	_____	_____	_____ psig
45	_____	_____	_____ psig
50	_____	_____	_____ psig
55	_____	_____	_____ psig
60 min	_____	_____	_____ psig
Tubing press	<u>550</u> psig	<u>550</u> psig	_____ psig

Result (circle) Pass Fail

Pass Fail

Pass Fail

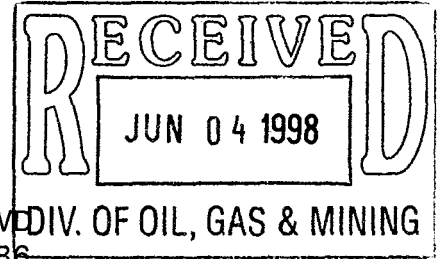
Signature of EPA Witness: _____

See back of page for any additional comments & compliance followup.



Coastal
The Energy People

June 1, 1998



Lake Fork #2-23B4 SWD
EPA No. UT2681-02386
Altamont/Bluebell Field
Duchesne County, Utah

43-013-30038

VIA FAX & MAIL

Mr. John Carson
Environmental Protection Agency
999 18th Street, Suite 500
Mail Code: 8ENF-T
Denver, Colorado 80202-2466

Mr. Dan Jarvis
State of Utah
Division of Oil, Gas & Mining
1594 West North Temple, Suite 1210
Salt Lake City, Utah 84114

Dear Messrs. Carson & Jarvis:

Attached please find the casing annulus pressure monitoring results from the subject well. As previously agreed upon, the casing annulus pressure was taken on a daily basis.

As evidenced in the monitoring results, the casing annulus pressure remains fairly constant at 0 psi even though there were three events that showed a pressure anomaly. Because this well does not have excessive annular pressure (as defined by EPA Guidance Document No. 35) and no flow has been detected in recent pressure tests, Coastal believes that this well is performing normally and requires no work to remain functionally sound. Therefore, Coastal intends to continue current injection activity.

Please review the attached monitoring results and provide us with your comments as soon as possible. If you have any questions, please call me at (303) 573-4455.

Sincerely,

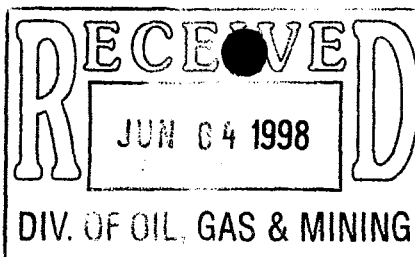
Sheila Bremer

Attachments

cc: Les Streeb
Bill McGaughey

Coastal Oil & Gas Corporation

A SUBSIDIARY OF THE COASTAL CORPORATION
600 17TH ST • STE 500 S • P.O. BOX 719 • PUEBLO, CO 81001-0719 • 303 573-4455



MONTHLY INJECTION REPORT - UIC FORM 3

OPERATOR Coastal Oil & Gas
ADDRESS P.O. Box 120
Altamont, Utah 84001

OPERATIONS MONTH/YR 5-98

CORRECTED REPORT []

Well name and number: 215 Lake Fork 2-23B4

Field or Unit name: Altamont/Bluebell API no. _____

Well location: CO _____ section 23 township 2S range 4W county Duchesne

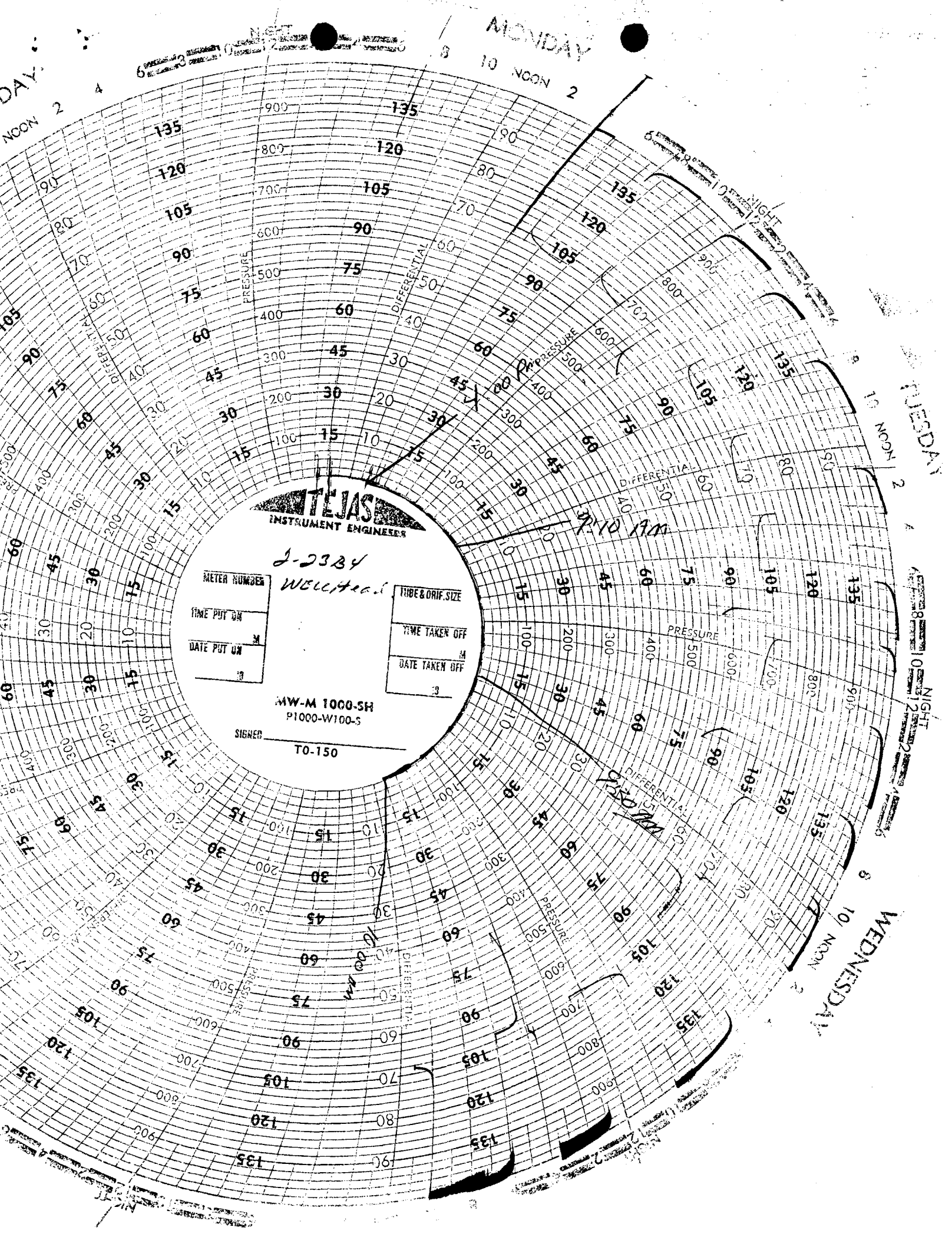
Date	#1 Volume Disposed	#2 Volume Disposed	Hours In Service	Hours	Maximum Pressure	Average Operating Pres.	Tubing/Casing Annulus Pres.
1	4283	0	4283	50	700	700	700/0
2	4020	169	4189	20	700	700	700/0
3	5094	2433	7527	23	1100	700	700/0
4	5167	2440	7607	24	1100	700	700/0
5	4882	2660	7542	23	1100	700	700/0
6	5434	2700	8134	24	1100	1100	1100 - 100
7	5107	2300	7407	22	1100	1100	1100 - 90
8	4983	2089	7072	21	1100	1100	1100 - 0
9	5262	1939	7201	22	1100	1100	1000 - 0
10	5096	2024	7140	21	1100	700	700/0
11	4771	1735	6506	20	1100	700	700/0
12	4976	1542	6518	21	1100	1000	1000/0
13	5271	1663	6924	24	1100	1000	1000/0
14	5247	2065	7312	22	1100	1000	700/0
15	5117	1820	6937	21	1100	1100	1100/90
16	4992	2232	7324	23	1100	1100	1100/0
17	4750	2312	7062	22	1100	1100	1100/0
18	5003	2242	7245	23	1100	1100	1100/0
19	4862	2543	7405	22	1100	1100	1100/0
20	5042	4123	9165	24	1100	1100	1100/0
21							
22							
23							
24							
25							
26							
27							
28							
29							
30							
31							

Approximate time = 9:30 AM

Total volume injected for month _____
All time cumulative volume injected _____

I certify that this report is true and complete to the best of my knowledge.

Name _____ Signature _____
Title _____ Date _____
Phone No. () _____



STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL ☐ GAS WELL ☐ OTHER _____

2. NAME OF OPERATOR:
El Paso Production Oil & Gas Company

3. ADDRESS OF OPERATOR: 368 South 1200 East CITY Vernal STATE Utah ZIP 84078 PHONE NUMBER: 435-789-4433

4. LOCATION OF WELL

FOOTAGES AT SURFACE: _____

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: _____

5. LEASE DESIGNATION AND SERIAL NUMBER:

6. IF INDIAN, ALLOTTEE OR TRIBE NAME:

7. UNIT or CA AGREEMENT NAME:

8. WELL NAME and NUMBER:

Exhibit "A"

9. API NUMBER:

10. FIELD AND POOL, OR WILDCAT:

COUNTY: _____

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input checked="" type="checkbox"/> OTHER: Name Change
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

As a result of the merger between The Coastal Corporation and a wholly owned subsidiary of El Paso Energy Corporation, the name of Coastal Oil & Gas Corporation has been changed to El Paso Production Oil & Gas Company effective March 9, 2001.

See Exhibit "A"

Bond # 400JU0708

Coastal Oil & Gas Corporation

NAME (PLEASE PRINT) John T. Elzner TITLE Vice President

SIGNATURE [Signature] DATE 06-15-01

El Paso Production Oil & Gas Company

NAME (PLEASE PRINT) John T. Elzner TITLE Vice President

SIGNATURE [Signature] DATE 06-15-01

(This space for State use only)

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JUN 19 2001

DIVISION OF
OIL, GAS AND MINING

UIC FORM 5

Well Name and Number	API Number
EXHIBIT "A"	
Location of Well	Field or Unit Name
Footage : [REDACTED]	
County : [REDACTED]	
QQ, Section, Township, Range: [REDACTED] [REDACTED] [REDACTED] [REDACTED]	Lease Designation and Number
State : UTAH	

CURRENT OPERATOR

Name: John T. Elzner
Signature: [Signature]
Title: Vice President
Date: 06-15-01

See EXHIBIT "A"

Name: John T. Elzner
Signature: [Signature]
Title: Vice President
Date: 06-15-01

Bond Number 400JU0708

Transfer approved by: M. O'Leary
Title: Tech. Services Manager

Approval Date: 6-21-01

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DIVISION OF OIL, GAS AND MINING

EXHIBIT "A"

NAME CHANGE FROM COASTAL OIL & GAS CORPORATION TO EL PASO PRODUCTION OIL & GAS COMPANY

API Well No.	Well Name	Well Status	Well Type	Location(T-R)	Section
43-013-30361-00-00	ALLRED 2-16A3	Active Well	Water Disposal	1S-3W	16
43-013-30370-00-00	UTE TRIBAL 1-25A3	Producing Well	Oil Well	1S-3W	25
43-013-30362-00-00	BIRCH 2-35A5	Active Well	Water Disposal	1S-5W	35
43-013-30337-00-00	G HANSON 2-4B3 SWD	Active Well	Water Disposal	2S-3W	4
43-013-30038-00-00	LAKE FORK 2-23B4	Active Well	Water Disposal	2S-4W	23
43-013-30371-00-00	LINDSAY RUSSELL 2-32B4	Active Well	Water Disposal	2S-4W	32
43-013-30121-00-00	TEW 1-9B5	Active Well	Water Disposal	2S-5W	9
43-013-30391-00-00	EHRICH 2-11B5	Active Well	Water Disposal	2S-5W	11
43-013-30340-00-00	LDS CHURCH 2-27B5	Active Well	Water Disposal	2S-5W	27
43-013-30289-00-00	RHOADES MOON 1-36B5	Shut_In	Oil Well	2S-5W	36
43-013-30056-00-00	UTE 1-14C6	Active Well	Water Disposal	3S-6W	14
43-047-33597-00-00	NBU SWD 2-16	Spudded (Drilling commenced: Not yet completed)	Water Disposal	10S-21E	16
43-047-32344-00-00	NBU 205	Shut_In	Gas Well	10S-22E	9
43-047-15880-00-00	SOUTHMAN CANYON U 3	Active Well	Water Disposal	10S-23E	15
43-047-31822-00-00	UTE 26-1		Water Disposal	4S-1E	26
43-047-32784-00-00	STIRRUP STATE 32-6	Active Well	Water Injection	6S-21E	32
43-047-30359-00-00	NBU 21-20B	Active Well	Water Disposal	9S-20E	20
43-047-33449-00-00	OURAY SWD 1	Approved permit (APD); not yet spudded	Water Disposal	9S-21E	1
43-047-31996-00-00	NBU 159	Active Well	Water Disposal	9S-21E	35

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 JUN 19 2001
 DIVISION OF
 OIL, GAS AND MINING

State of Delaware
Office of the Secretary of State

PAGE 1

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THE ATTACHED IS A TRUE AND CORRECT COPY OF THE CERTIFICATE OF AMENDMENT OF "COASTAL OIL & GAS CORPORATION", CHANGING ITS NAME FROM "COASTAL OIL & GAS CORPORATION" TO "EL PASO PRODUCTION OIL & GAS COMPANY", FILED IN THIS OFFICE ON THE NINTH DAY OF MARCH, A.D. 2001, AT 11 O'CLOCK A.M.

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JUN 19 2001

DIVISION OF
OIL, GAS AND MINING



Harriet Smith Windsor
Harriet Smith Windsor, Secretary of State

0610204 8100

AUTHENTICATION: 1061007

010162788

DATE: 04-03-01

CERTIFICATE OF AMENDMENT

OF

CERTIFICATE OF INCORPORATION

COASTAL OIL & GAS CORPORATION (the "Company"), a corporation organized and existing under and by virtue of the General Corporation Law of the State of Delaware, DOES HEREBY CERTIFY:

FIRST: That the Board of Directors of the Company, by the unanimous written consent of its members, filed with the minutes of the Board, adopted a resolution proposing and declaring advisable the following amendment to the Certificate of Incorporation of the Company:

RESOLVED that it is deemed advisable that the Certificate of Incorporation of this Company be amended, and that said Certificate of Incorporation be so amended, by changing the Article thereof numbered "FIRST," so that, as amended, said Article shall be and read as follows:

"FIRST. The name of the corporation is El Paso Production Oil & Gas Company."

SECOND: That in lieu of a meeting and vote of stockholders, the stockholders entitled to vote have given unanimous written consent to said amendment in accordance with the provisions of Section 228 of the General Corporation Law of the State of Delaware.

THIRD: That the aforesaid amendment was duly adopted in accordance with the applicable provisions of Sections 242 and 228 of the General Corporation Law of the State of Delaware.

IN WITNESS WHEREOF, said COASTAL OIL & GAS CORPORATION has caused this certificate to be signed on its behalf by a Vice President and attested by an Assistant Secretary, this 9th day of March 2001.

COASTAL OIL & GAS CORPORATION



David L. Siddall
Vice President

Attest:


Margaret E. Roark, Assistant Secretary

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STATE OF DELAWARE
SECRETARY OF STATE
DIVISION OF CORPORATIONS
FILED 11:00 AM 03/09/2001
010118394 - 0610204

JUN 19 2001

DIVISION OF
OIL, GAS AND MINING

State of Delaware
Office of the Secretary of State

PAGE 1

I, HARRIET SMITH WINDSOR, SECRETARY OF STATE OF THE STATE OF DELAWARE, DO HEREBY CERTIFY THAT THE SAID "COASTAL OIL & GAS CORPORATION", FILED A CERTIFICATE OF AMENDMENT, CHANGING ITS NAME TO "EL PASO PRODUCTION OIL & GAS COMPANY", THE NINTH DAY OF MARCH, A.D. 2001, AT 11 O'CLOCK A.M.

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JUN 19 2001

DIVISION OF
OIL, GAS AND MINING



Harriet Smith Windsor
Harriet Smith Windsor, Secretary of State

0610204 8320

AUTHENTICATION: 1103213

010202983

DATE: 04-27-01


EL PASO PRODUCTION OIL & GAS COMPANY

CERTIFICATE OF INCUMBENCY

I, Margaret E. Roark, do hereby certify that I am a duly elected, qualified and acting Assistant Secretary of EL PASO PRODUCTION OIL & GAS COMPANY, a Delaware corporation (the "Company"), and that, as such, have the custody of the corporate records and seal of said Company; and

I do hereby further certify that the persons listed on the attached Exhibit A have been elected, qualified and are now acting in the capacities indicated, as of the date of this Certificate.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the corporate seal of El Paso Production Oil & Gas Company this 18th day of April 2001.


Margaret E. Roark, Assistant Secretary

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JUN 19 2001

DIVISION OF
OIL, GAS AND MINING

OPERATOR CHANGE WORKSHEET**ROUTING**

1. GLH		4-KAS
2. CDW		5-LB <i>6/4</i>
3. JLT		6-FILE

Enter date after each listed item is completed

Change of Operator (Well Sold)

Designation of Agent

Operator Name Change (Only)

X **Merger**The operator of the well(s) listed below has changed, effective: **3-09-2001**

FROM: (Old Operator):
COASTAL OIL & GAS CORPORATION
Address: 9 GREENWAY PLAZA STE 2721
HOUSTON, TX 77046-0995
Phone: 1-(713)-418-4635
Account N0230

TO: (New Operator):
EL PASO PRODUCTION OIL & GAS COMPANY
Address: 9 GREENWAY PLAZA STE 2721 RM 2975B
HOUSTON, TX 77046-0995
Phone: 1-(832)-676-4721
Account N1845

CA No.**Unit:****WELL(S)**

NAME	API NO	ENTITY NO	SEC TWN RNG	LEASE TYPE	WELL TYPE	WELL STATUS
ALLRED 2-16A3	43-013-30361	99996	16-01S-03W	FEE	WD	A
BIRCH 2-35A5	43-013-30362	99996	35-01S-05W	FEE	WD	A
G HANSON 2-4B3 SWD	43-013-30337	99990	04-02S-03W	FEE	WD	A
LAKE FORK 2-23B4	43-013-30038	1970	23-02S-04W	FEE	WD	A
LINDSAY RUSSELL 2-32B4	43-013-30371	99996	32-02S-04W	FEE	WD	A
TEW 1-9B5	43-013-30121	1675	09-02S-05W	FEE	WD	A
EHRICH 2-11B5	43-013-30391	99990	11-02S-05W	FEE	WD	A
LDS CHURCH 2-27B5	43-013-30340	99990	27-02S-05W	FEE	WD	A
UTE 1-14C6	43-013-30056	12354	14-03S-06W	INDIAN	WD	A
SOUTHMAN CANYON U 3	43-047-15880	99990	15-10S-23E	FEDERAL	WD	A
STIRRUP STATE 32-6 (HORSESHOE BEND UNIT)	43-047-32784	12323	32-06S-21E	STATE	WIW	A
NBU 21-20B (NATURAL BUTTES UNIT)	43-047-30359	2900	20-09S-20E	FEDERAL	WD	A
NBU 159 (NATURAL BUTTES UNIT)	43-047-31996	2900	35-09S-21E	FEDERAL	WD	A

OPERATOR CHANGES DOCUMENTATION

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 06/19/2001
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 06/19/2001
- The new company has been checked through the **Department of Commerce, Division of Corporations Database** on: 06/21/2001
- Is the new operator registered in the State of Utah: YES Business Number: 608186-0143

5. If **NO**, the operator was contacted contacted on: N/A
6. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the (merger, name change, or operator change for all wells listed on Federal or Indian leases on: N/A
7. **Federal and Indian Units:** The BLM or BIA has approved the successor of unit operator for wells listed on: N/A
8. **Federal and Indian Communization Agreements ("CA"):** The BLM or the BIA has approved the operator change for all wells listed involved in a CA on: N/A
9. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: N/A

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database** on: 06/21/2001
2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 06/21/2001
3. Bond information entered in RBDMS on: 06/20/2001
4. Fee wells attached to bond in RBDMS on: 06/21/2001

STATE BOND VERIFICATION:

1. State well(s) covered by Bond No.: 400JU0705

FEE WELLS - BOND VERIFICATION/LEASE INTEREST OWNER NOTIFICATION:

1. (R649-3-1) The **NEW** operator of any fee well(s) listed has furnished a bond: 400JU0708
2. The **FORMER** operator has requested a release of liability from their bond on: COMPLETION OF OPERATOR CHANGE
The Division sent response by letter on: N/A
3. (R649-2-10) The **FORMER** operator of the Fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: COMPLETION OF OPERATOR CHANGE

FILMING:

1. All attachments to this form have been **MICROFILMED** on: 7-11-2001

FILING:

1. **ORIGINALS/COPIES** of all attachments pertaining to each individual well have been filled in each well file on: _____

COMMENTS: Master list of all wells involved in operator change from Coastal Oil & Gas Corporation to El Paso Production Oil and Gas Company shall be retained in the "Operator Change File".

STATE OF UTAH
DIVISION OF OIL GAS AND MINING

INJECTION WELL - PRESSURE TEST

Well Name: <u>LAKEFORK 2-23 B4</u>	API Number: <u>43-013-30038</u>
Qtr/Qtr: <u>SW/NE</u> Section: <u>23</u>	Township: <u>2S</u> Range: <u>4W</u>
Company Name: <u>EL PASO</u>	
Lease: State <u>✓</u> Fee <u>✓</u>	Federal <u> </u> Indian <u> </u>
Inspector: <u>Hannibal & Ingram</u>	Date: <u>5-28-03</u>

Initial Conditions:

Tubing - Rate: Pressure: 675 psiCasing/Tubing Annulus - Pressure: 0 psi

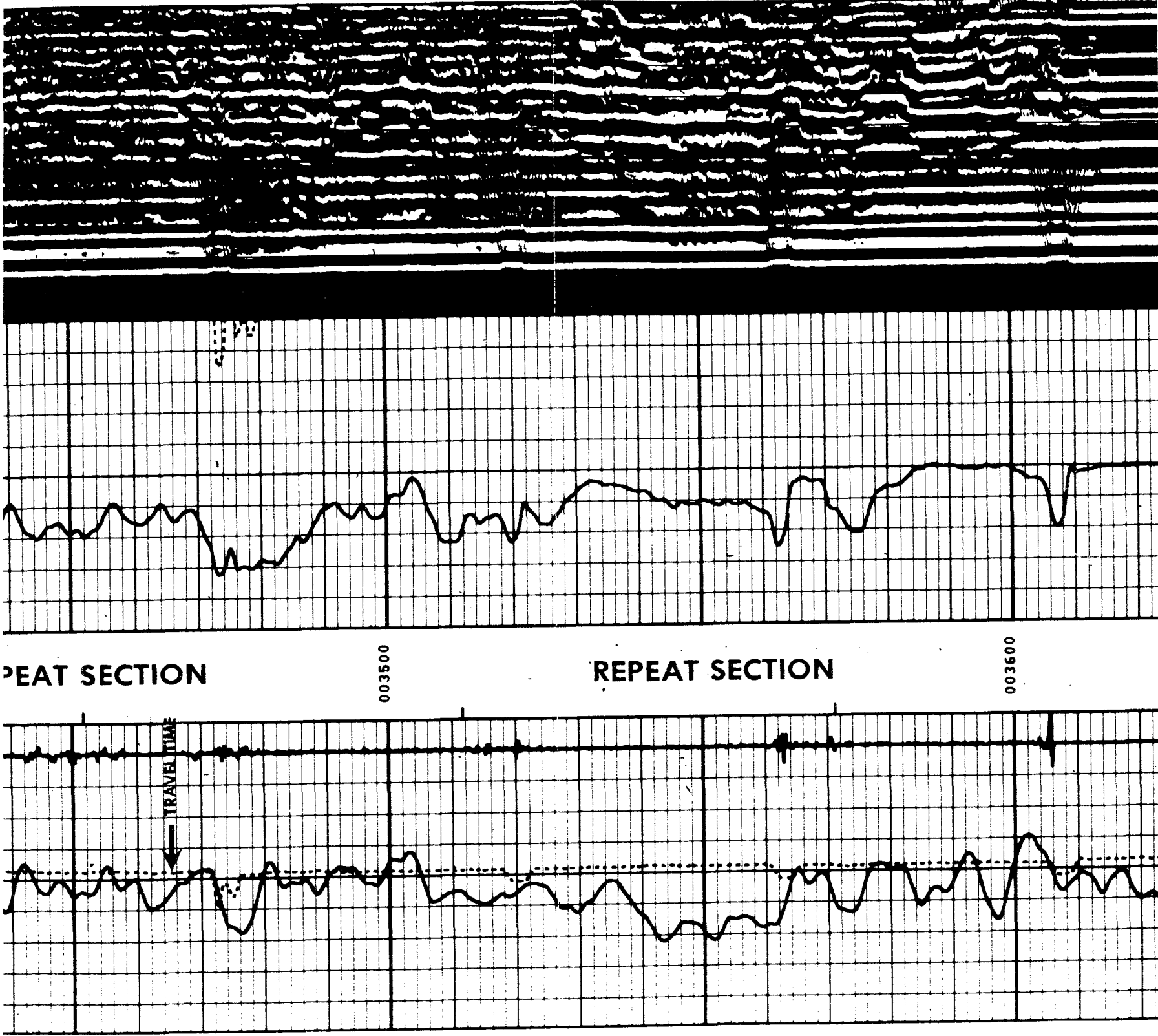
Conditions During Test:

Time (Minutes)	Annulus Pressure	Tubing Pressure
0	<u>875</u>	<u>675</u>
5	<u>550</u>	<u> </u>
10	<u>550</u>	<u> </u>
15	<u>550</u>	<u> </u>
20	<u>550</u>	<u> </u>
25	<u>550</u>	<u> </u>
30	<u>550</u>	<u>675</u>

Results: Pass/Fail Pass

Conditions After Test:

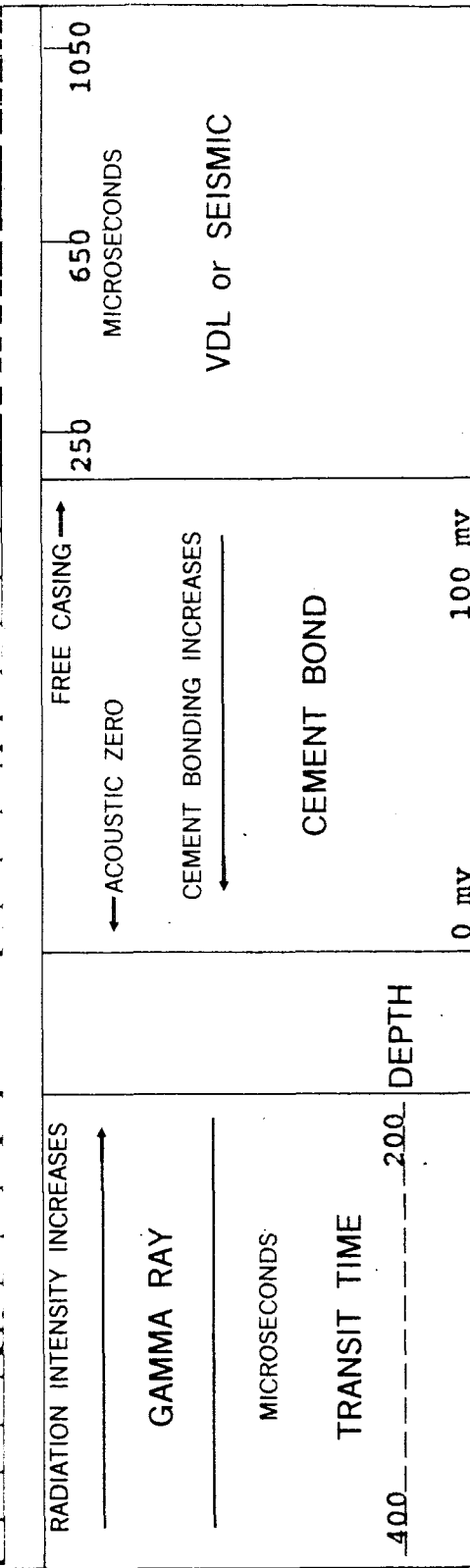
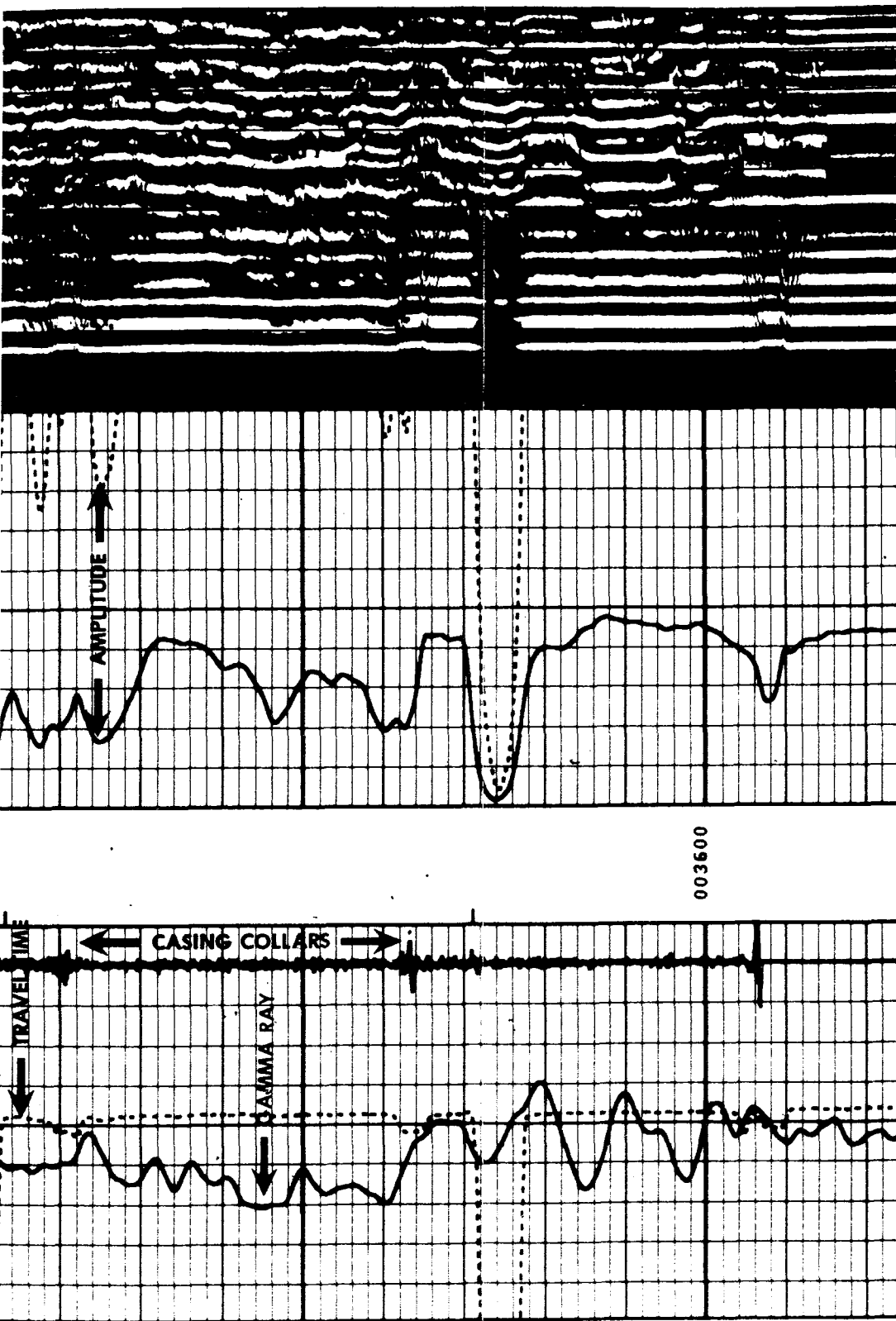
Tubing Pressure: 675 psiCasing/Tubing Annulus Pressure: 550 psiCOMMENTS: Casing Problem Test @ 8:55 AMX Early Nelson
Operator Representative



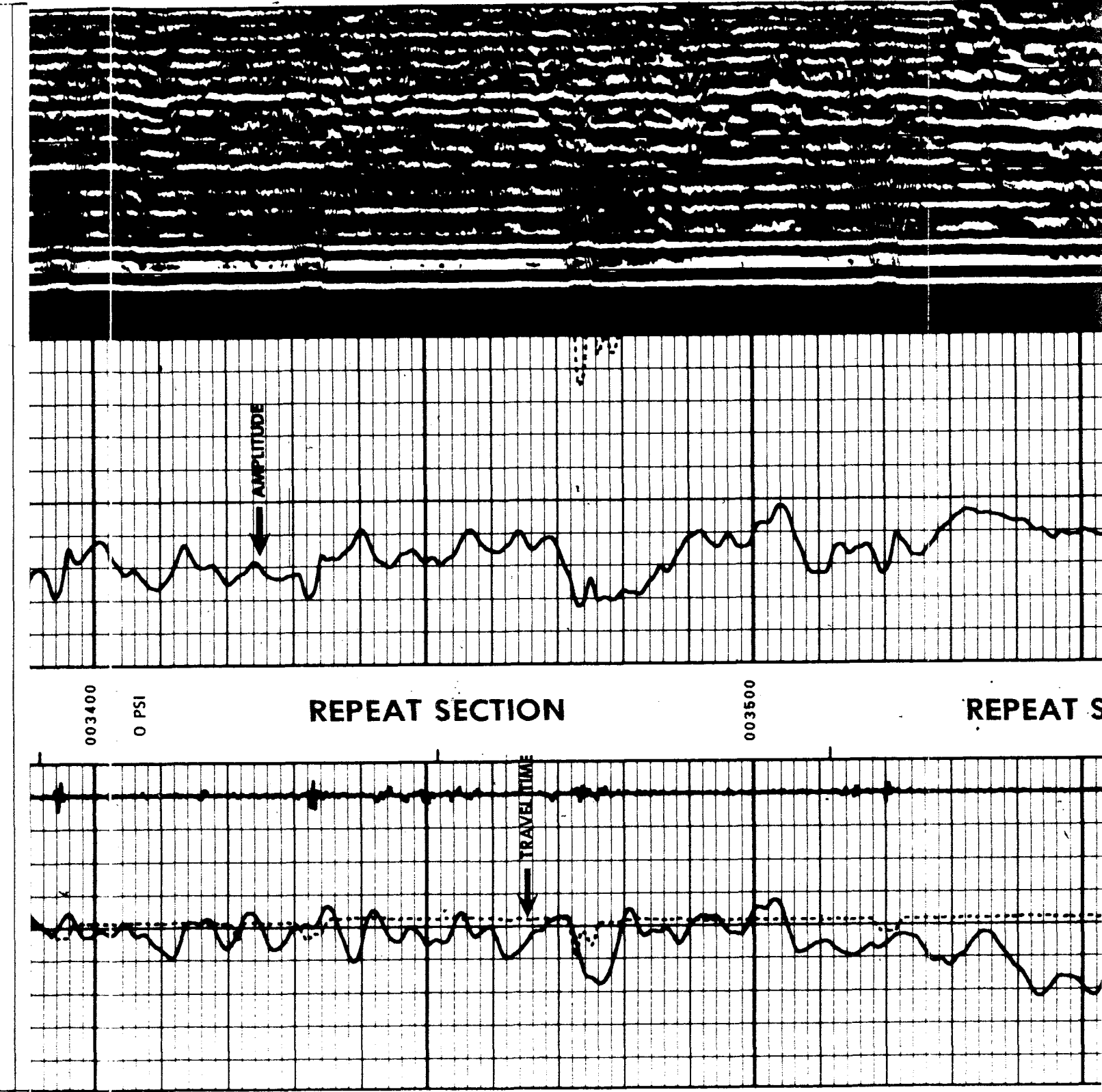
REPEAT SECTION

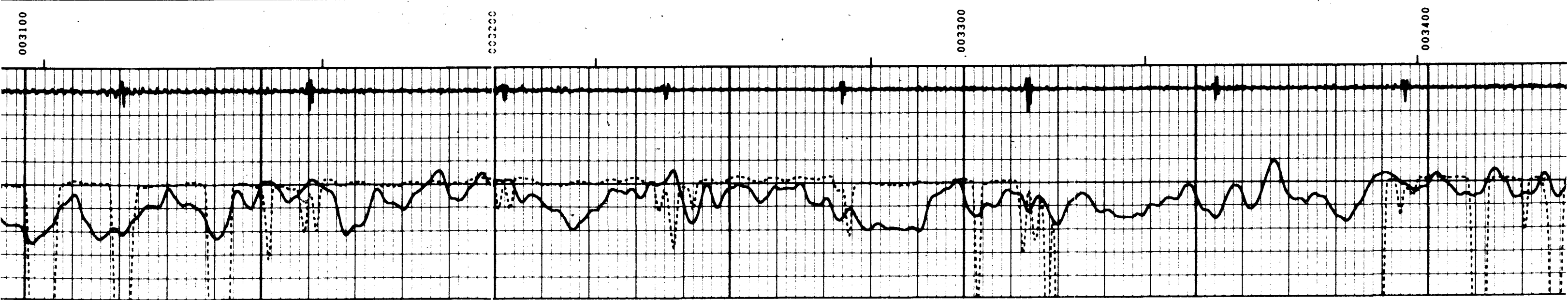
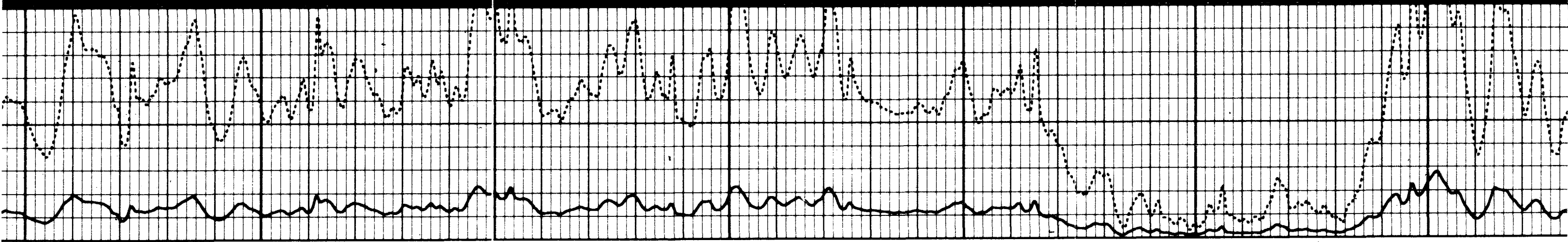
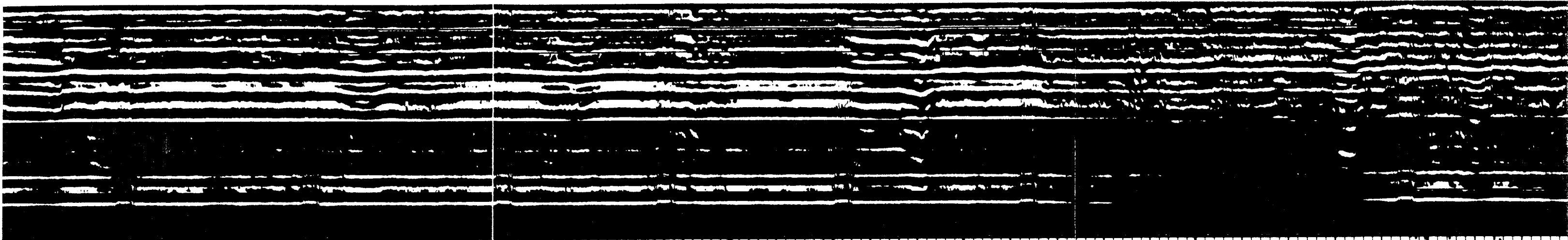
Company ANR LIMITED
Well BRO 2-23B4 (SWD)
Field ALTAMONT
County DUCHEÑNE
State UTAH

Drillers T.D. 11238
Log R.D. 3616
Log T.D. 3624
Elevations:
K.B. 6303 D.F. G.L. 6288



REPEAT SECTION



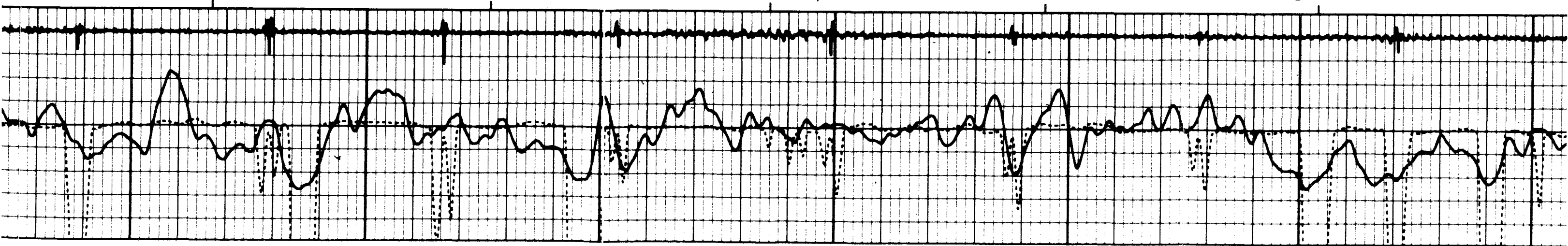
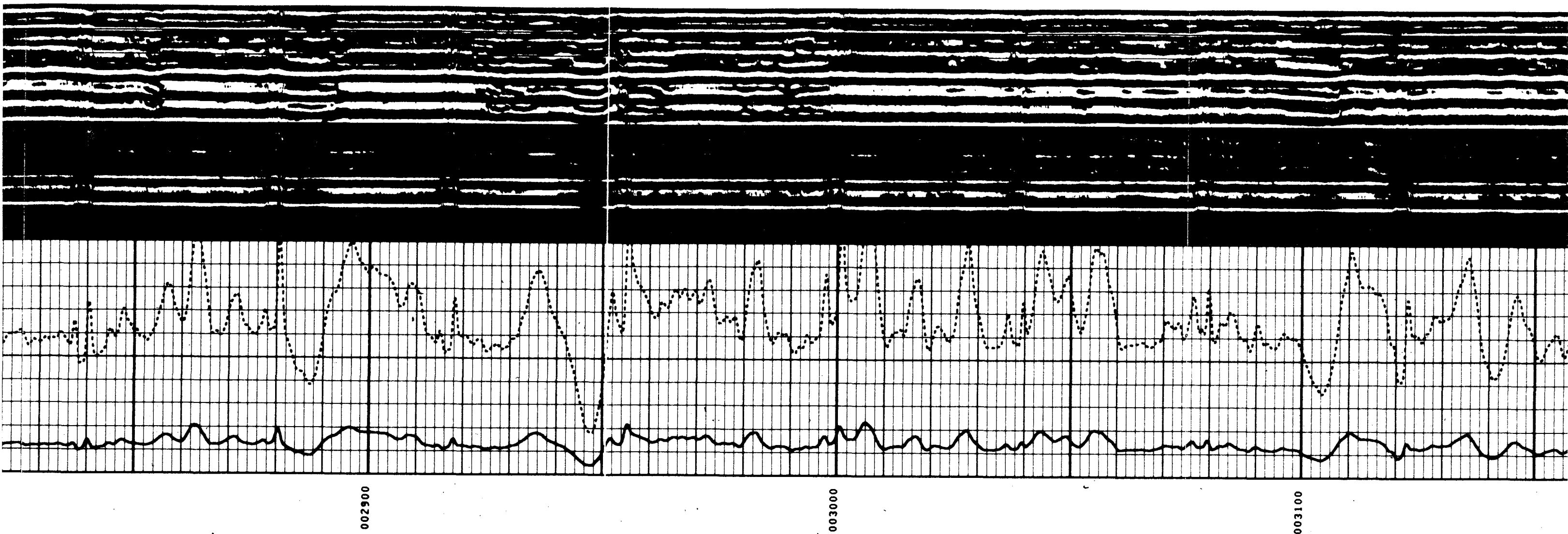


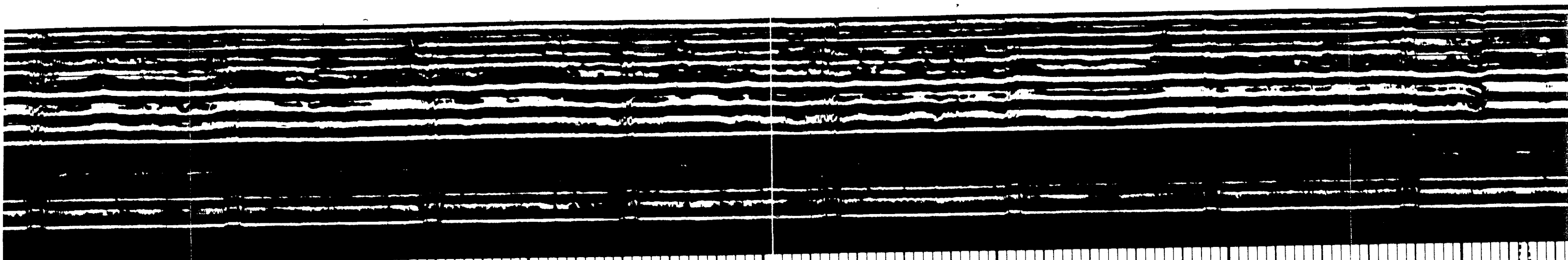
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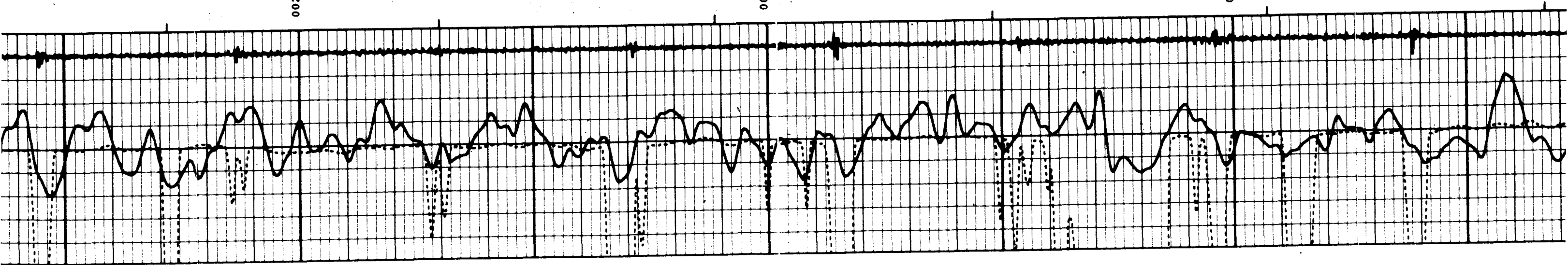


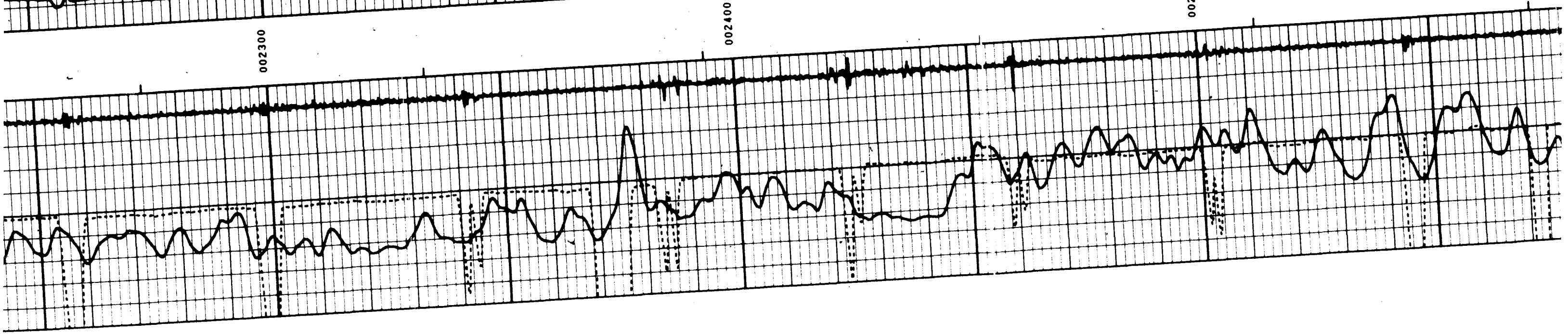
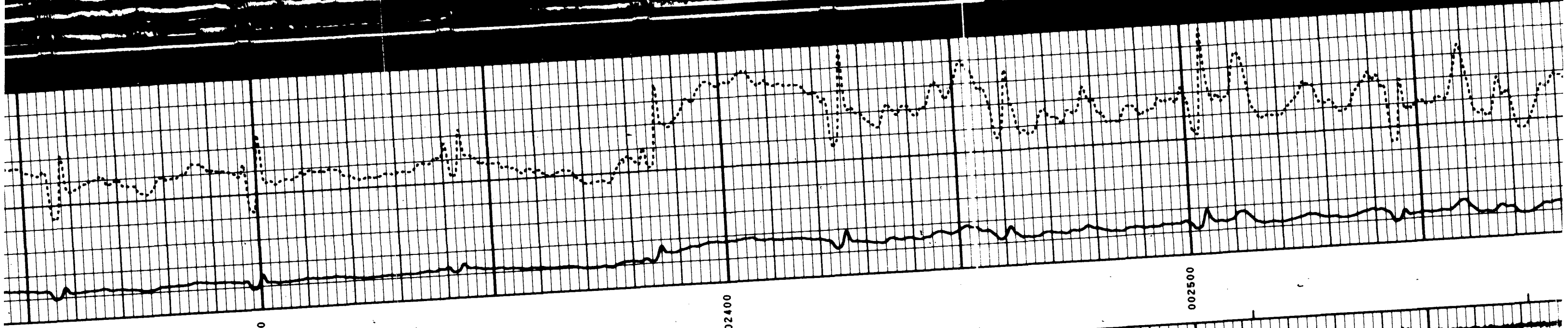
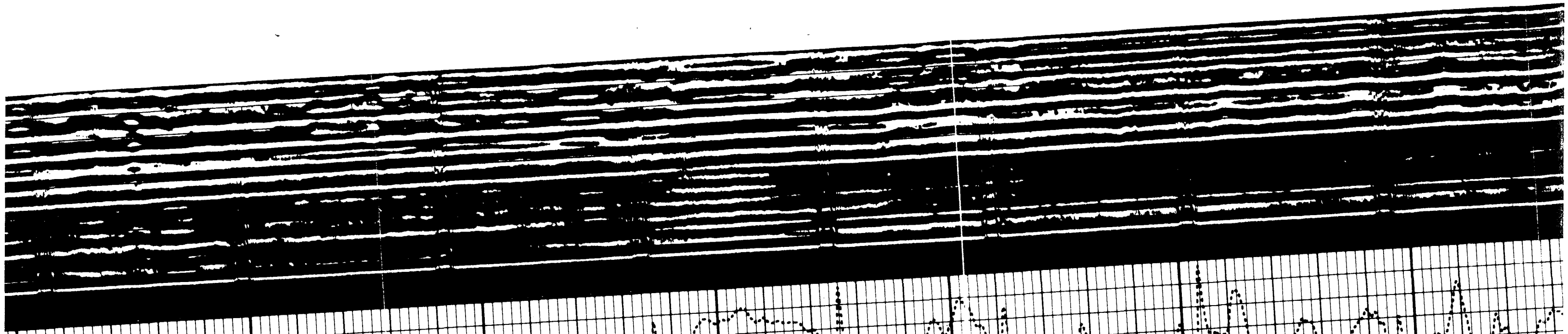


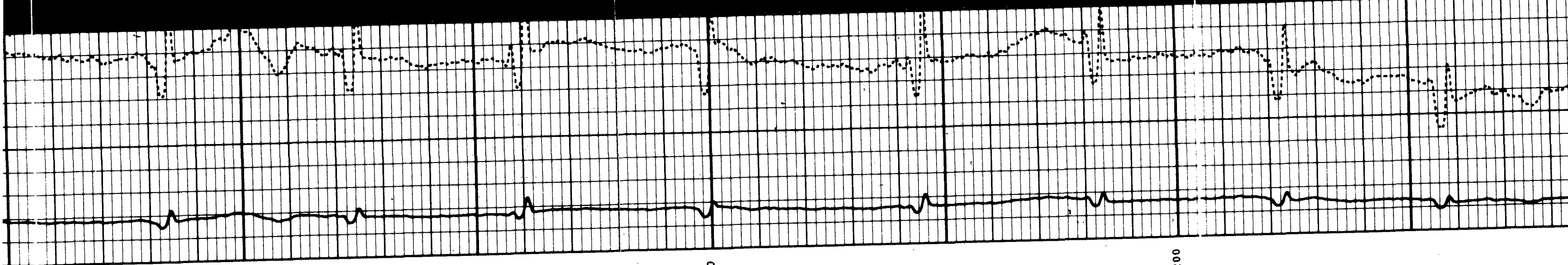
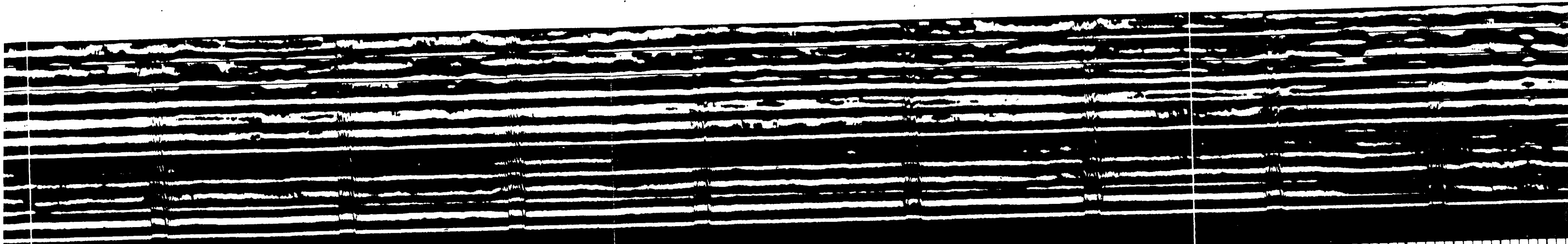
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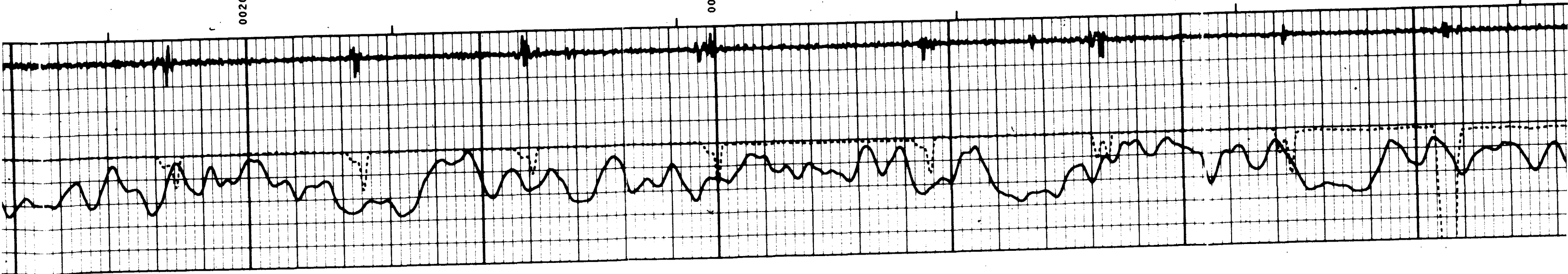


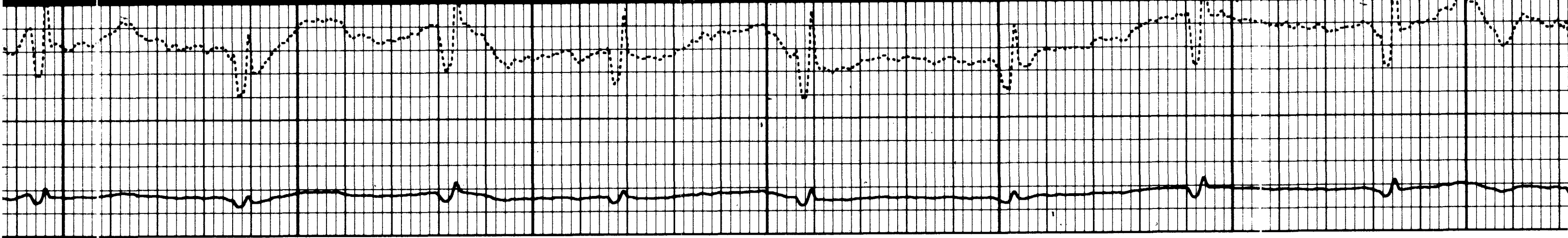
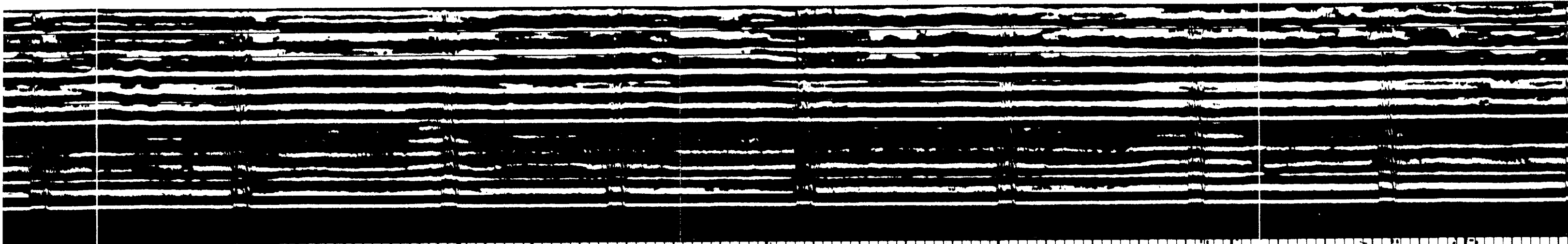


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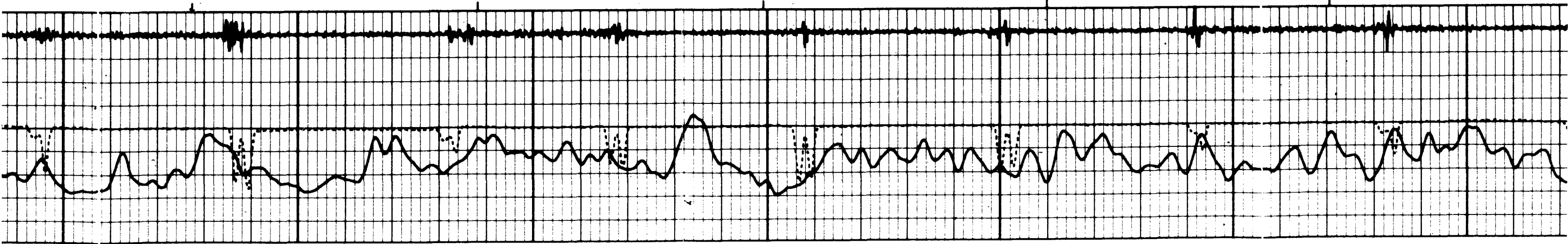



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COMPANY ANR LTD

WELL BRO #2-23B4 (SWD)

FIELD ALTAMONT

County DUCHESNE

State UTAH

File

COMPANY ANR LIMITED

WELL BROTHERSON #2-23B4 (SWD)

FIELD ALTAMONT

COUNTY DUCHESNE STATE UTAH

Location

SW/NE

Other Logs

Elevation

KB. 6303

DF.

GL. 6288

Permanent Datum G.L. Elev 6288

Log Measured From K.B. 15' ABOVE GROUND LEVEL

Drilling Measured From K.B.

Type Log CBL-GR

Run No. ONE

Date 10-31-87

Total Depth Driller 11238

Present Depth Driller

Total Depth O.W.P. 3624

Survey Begins 1100

Survey Ends 3624

Truck No. 533&346

Location VERNAL

Type Fluid in Hole PRODUCTION WATER

Salinity PPMC Cl

Weight lb./gal. 8.4

Fluid Level FULL W/2000 PSI

Max. Hole Temp

Recorded By COUGHLIN

Witnessed By MR. BOZARTH

BORE HOLE RECORD

Run	Bit	From	To	Size	Wt.	From	To
				9 5/8	36	SURFACE	2450
				7	23&26	SURFACE	9905

CASING RECORD

Run	Bit	From	To	Size	Wt.	From	To
				9 5/8	36	SURFACE	2450
				7	23&26	SURFACE	9905

EQUIPMENT DATA

Tool Serial No. 28 Model No. 145C Dia 3.375

Gamma Ray Detector Type SCINT. Length 8"

Distance To Bond Ref. 5.5'

Transmitter Frequency

Receiver to Transmitter Spacing 1.0 METER

Free Casing = 61mv

LOGGING DATA

GENERAL			GAMMA RAY			AMPLITUDE			T. Time		
Run No.	Depth From	Depth To	Speed Ft/Min.	TC Sec.	Span	Zero	Scale	Gain	Delay	Scale	Time
1	1100	3624	60	1	470	0	CORR.	125	596		

CEMENTING DATA: CEMENTED WITH 240 SKS HI FILL & 100 SKS NEAT MOD G BY HALIBURTON.

VARIABLE DENSITY or SEISMIC SPECTRUM

TIME MICROSECONDS

250 650 1050

AMPLITUDE

CEMENT BONDING INCREASES

0 20 100 mv


CASING & COLLAR LOG DEPTH

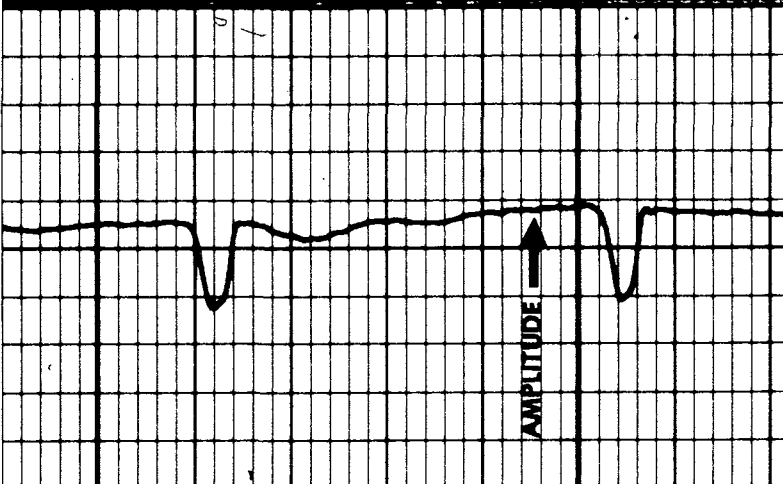
GAMMA RAY

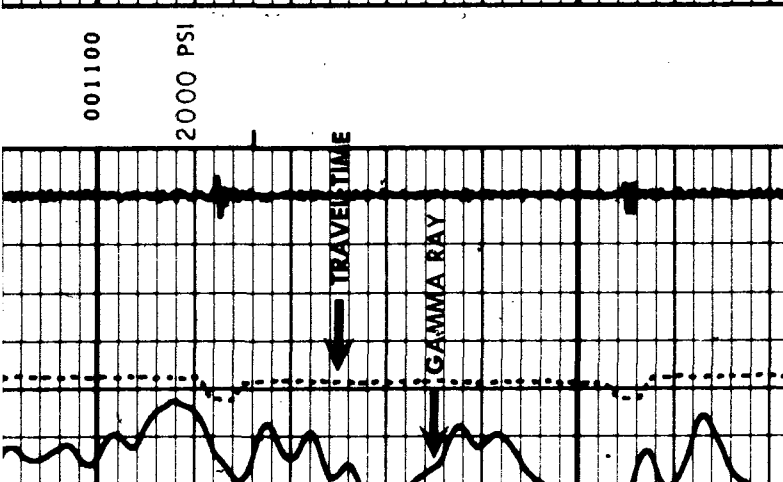
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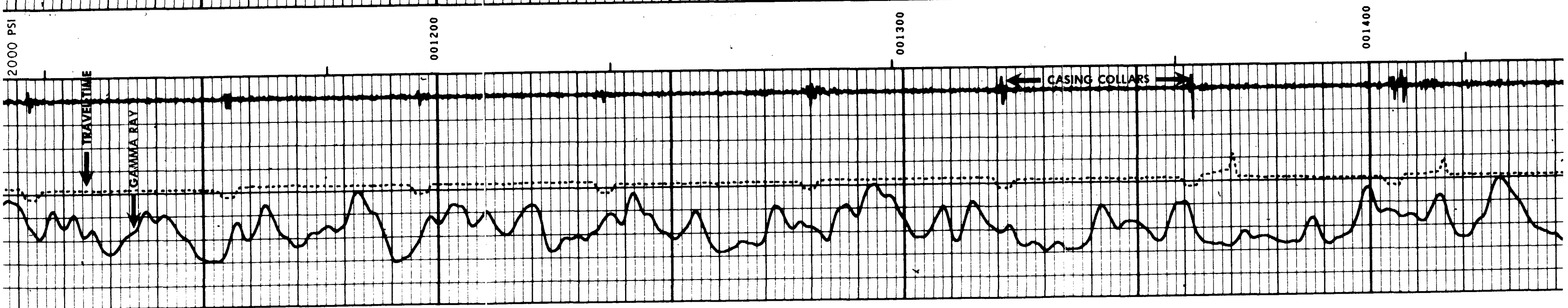
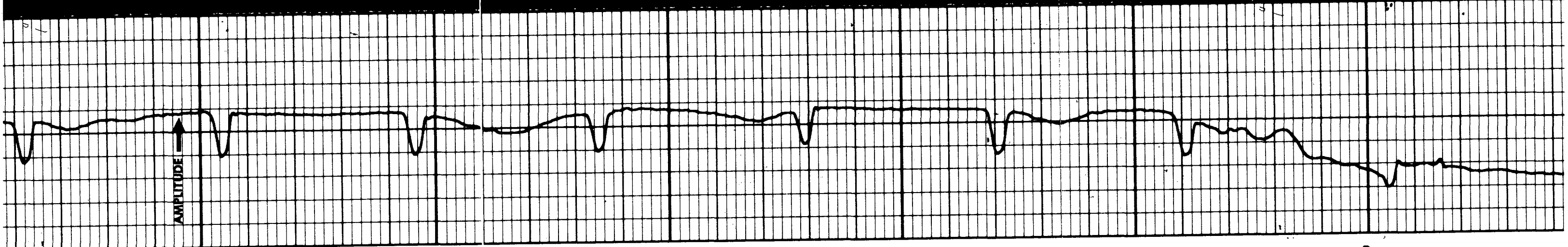
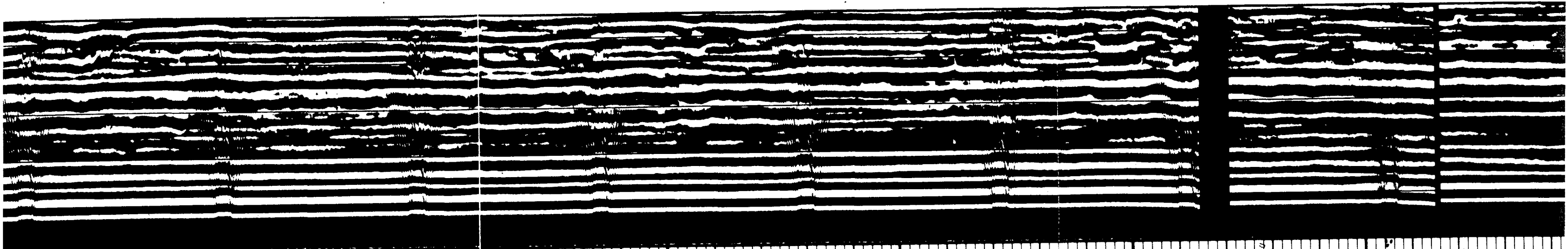
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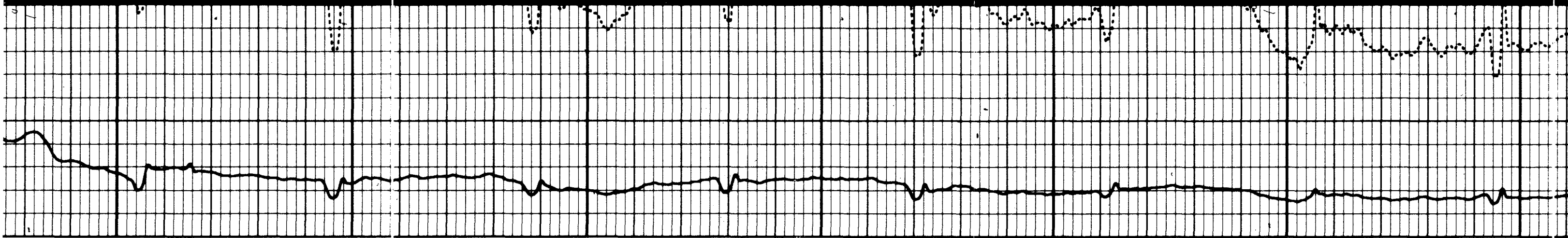
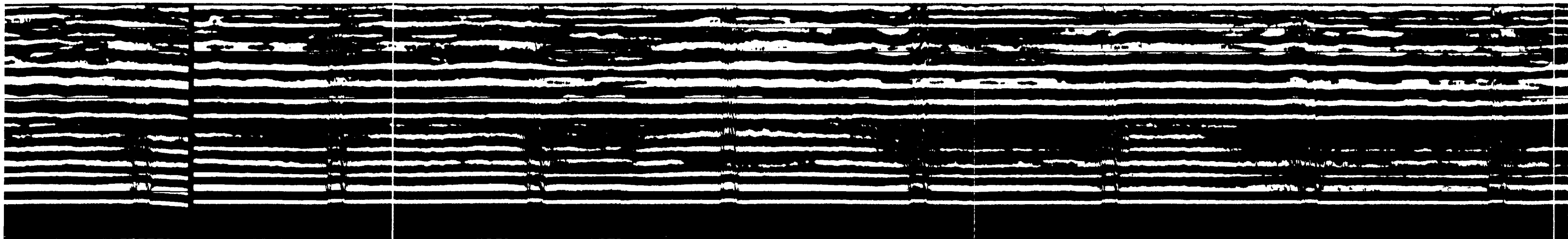
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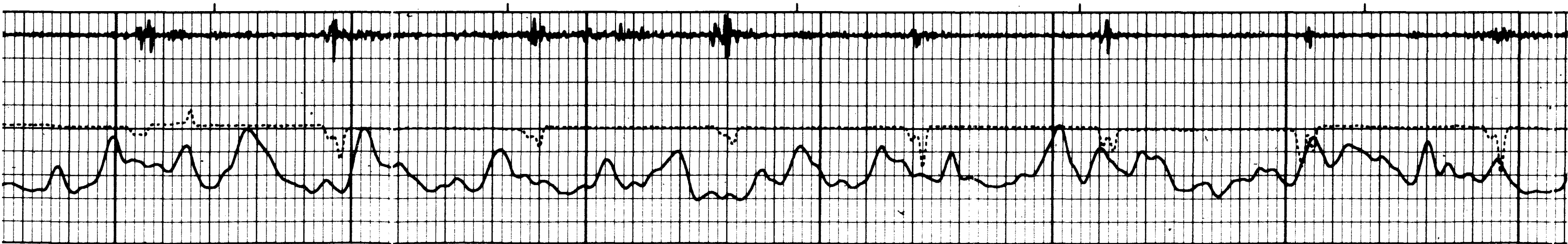


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001500

001600

001700





July 28, 2003

State of Utah
Division of Oil, Gas & Mining
Attn: Gil Hunt
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114

RE: Well No. Lake Fork 2-23B4 SWD
API Number 43-013-30038

Dear Mr. Hunt,

Enclosed please find a copy of the Monthly Injection Report from the subject well for the month of June.

The Lake Fork 2-23B4 SWD was unable to maintain pressure during the mechanical integrity test. In order to check for any leaks, a pressure integrity was performed on the casing. There was 0# of pressure at the start of the casing pressure integrity test, pressure was increased to 1000#, and the pressure then decreased to 750# in 15 minutes. The pressure was then bled off and the well was checked for flow – no flow was detected. (Normal tubing injection pressure for this well is 600#.)

The casing pressure for July 27, 2003 was 0 psi. We pumped .9 barrel, pressured the casing annulus up to 600#, bled off to 450# in 15 minutes. We then pumped .2 barrel to 650#, bled off to 475# in 15 minutes.

Because this well does not have excessive annular pressure and no flow has been detected in recent pressure tests, El Paso believes that this well is performing normally and requires no work to remain functionally sound.

El Paso will continue to monitor the casing annulus pressure on the Lake Fork #2-23B4 SWD on a daily basis. If the tubing/casing annulus pressure goes above 0#, we will shut in the well and take appropriate measures to find and correct any problem.

If you have any questions, please call me at 435-454-4223

Sincerely,

A handwritten signature in dark ink, appearing to read "W. G. McGaughey".

William G. McGaughey
Field Production Manager

Enclosure

RECEIVED

JUL 30 2003

DIV. OF OIL, GAS & MINING

P.O. Box 120 xxxx ■ Altamont, UT 84001-0120
435.454.3394xxxx Phone ■ 435.454.3970 Fax

STATE OF UTAH
DIVISION OF OIL, GAS, AND MINING
MONTHLY INJECTION REPORT - UIC FORM 3
DATE: June-03

OPERATOR: ELPASO OIL & GAS PRODUCTION CO.
ADDRESS: P.O. Box 120
Altamont, UT 84001

CORRECTED REPORT < >

WELL NAME AND NUMBER: LAKE FORK 2-23B4

API NO. 43-013-30038

FIELD OR UNIT NAME: ALTAMONT/BLUEBELL
EPA MAX ALLOWABLE INJ PRESS 1500

WELL LOCATION: QQ SECTION: 23 TOWNSHIP: 2S RANGE: 4W COUNTY: Duchesne

DATE	VOLUME DISPOSED	HOURS IN SERVICE	MAX PSI W/ 1 PUMP RUNNING	MAX PSI W/ 2 PUMPS RUNNING	TUBING/CASING ANNULUS PSI
1	1984	9 - 0	600	0	0
2	1745	8 - 0	600	0	0
3	2003	9 - 0	600	0	0
4	1938	9 - 0	600	0	0
5	1610	7 - 0	600	0	0
6	1846	8 - 0	600	0	0
7	1582	7 - 0	600	0	0
8	1914	9 - 0	600	0	0
9	1715	8 - 0	600	0	0
10	1543	7 - 0	600	0	0
11	1874	8 - 0	600	0	0
12	1576	7 - 0	600	0	0
13	1547	7 - 0	600	0	0
14	1508	7 - 0	600	0	0
15	1829	8 - 0	600	0	0
16	1507	7 - 0	600	0	0
17	1722	8 - 0	600	0	0
18	1876	8 - 0	600	0	0
19	1685	7 - 0	600	0	0
20	1744	8 - 0	600	0	0
21	1913	9 - 0	600	0	0
22	1789	7 - 0	600	0	0
23	1745	7 - 0	600	0	0
24	1854	8 - 0	600	0	0
25	1944	9 - 0	600	0	0
26	1881	8 - 0	600	0	0
27	1915	9 - 0	600	0	0
28	1846	8 - 0	600	0	0
29	1799	7 - 0	600	0	0
30	1724	7 - 0	600	0	0

Total Volume Injected for Month 53158

All Time Cumulative Volume Injected

I certify that this report is true and complete to the best of my knowledge.

Signature [Signature]

Date 7-7-03

Title Production Supervisor

Phone No. 4354543374

RECEIVED
JUL 30 2003
DIV. OF OIL, GAS & MINING



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt
Governor

Robert L. Morgan
Executive Director

Lowell P. Braxton
Division Director

1594 West North Temple, Suite 1210

PO Box 145801

Salt Lake City, Utah 84114-5801

(801) 538-5340 telephone

(801) 359-3940 fax

(801) 538-7223 TTY

www.nr.utah.gov

August 4, 2003

William G. McGaughey
Elpaso Production
P.O. Box 120
Altamont, Utah 84001-0120

RE: Lake Fork 2-23B4, Sec. 23, T2S, R4W, Duchesne County
API = 43-013-30038

Dear Mr. McGaughey:

The referenced disposal well failed a mechanical integrity test, which was witnessed by a Division employee on May 28, 2003. Your letter of July 28, 2003, is further verification of this situation. My understanding of the situation is as follows:

1. The failure is a casing leak, confirmed by lack of annulus pressure during injection operations.
2. All Underground Sources of Drinking Water (USDW) may not be behind surface casing.
3. Should the tubing or packer fail, injection would begin immediately into an unauthorized zone, possibly an USDW.
4. The casing leak is large enough to allow an injection rate equal to that of the pump used to pressure the annulus during the test on May 28.

All injection wells by rule must maintain mechanical integrity, and must be tested at least every five-year period. Monitoring can be allowed in lieu of pressure testing if the circumstances warrant. The main factor considered in allowing it would be if there were more than one layer of protection between the injection fluid and an USDW. If not, when that one layer fails (tubing or packer) injection begins immediately into an unauthorized zone. The other circumstance would be if the leak is so miniscule that it would be difficult, if not impossible to locate and repair, and thus would allow little, if any, injection into an unauthorized zone before the well could be shut-in and repaired. I don't see either of these circumstances evident in this situation. If my understanding of the circumstances relative to the integrity failure of this well is not

correct, please provide the additional information. Otherwise, the well must be repaired within 60 days of the date of this letter.

Should you have questions or want to discuss this situation, please call me at 801-538-5297 or send email to gilhunt@utah.gov,

Sincerely,

A handwritten signature in black ink, appearing to read "Gil Hunt", with a long horizontal flourish extending to the right.

Gil Hunt
Technical Services Manager

cc: well file
compliance file



August 12, 2003

State of Utah
Division of Oil, Gas & Mining
Attn: Gil Hunt
1594 West North Temple, Suite 1210
Salt Lake City, UT 84114

RE: Well No. Lake Fork 2-23B4 SWD
API Number 43-013-30038

Dear Mr. Hunt,

In reply to your concerns regarding the above referenced well, enclosed please find a copy of the Acoustic Cement Bond – Gamma Ray Log and the down-hole schematic from the subject well.

El Paso is continuing to monitor the casing annulus pressure on the Lake Fork #2-23B4 SWD on a daily basis. If the tubing/casing annulus pressure goes above 0#, we will shut in the well and take appropriate measures to find and correct any problem.

If you have any questions, please call me at 435-454-4223

Sincerely,

A handwritten signature in black ink, appearing to read "W. G. McGaughey".

William G. McGaughey
Field Production Manager

Enclosure

RECEIVED

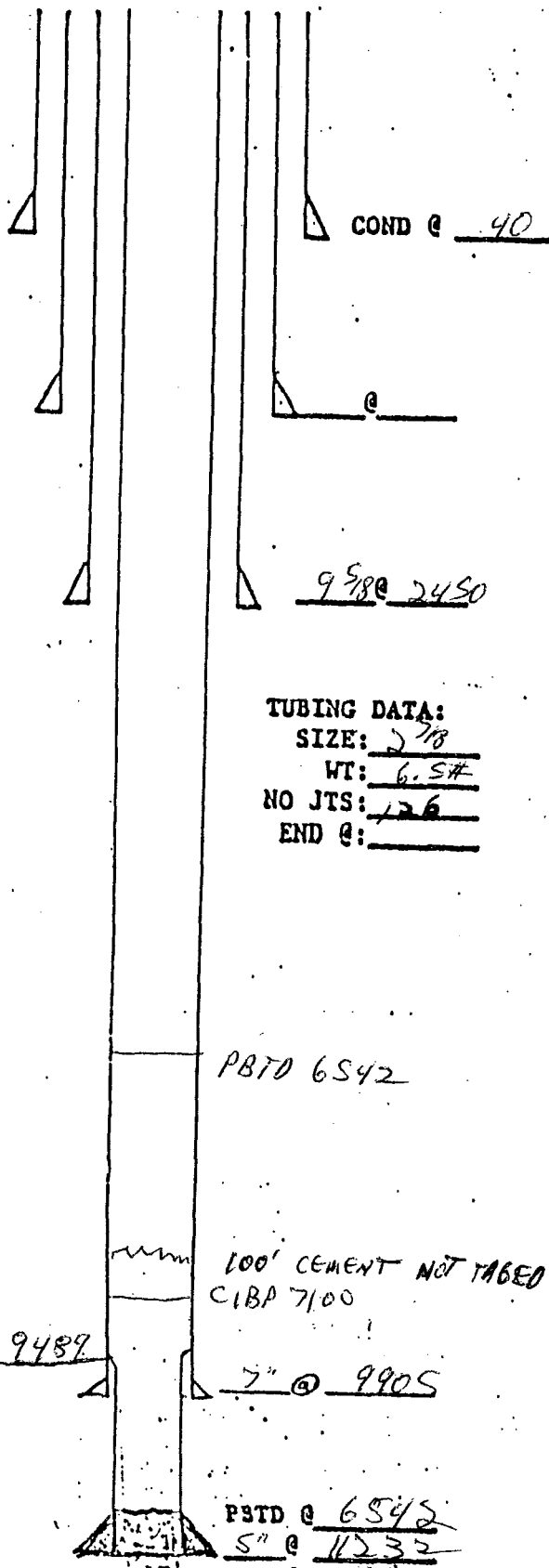
AUG 14 2003

DIV. OF OIL, GAS & MINING

P.O. Box 120 xxxx ▪ Altamont, UT 84001-0120
435.454.3394xxxx Phone ▪ 435.454.3970 Fax

DOWN-HOLE DRAWING

KB 6303
GL 6288



FIELD: ALTA MONT
WELL: LAKE FORK 2-23 R/S
LOCATION: SEC. 23 T. 2S R. 4W
COUNTY: DUCHESNE STATE: UTAH
COMPLETION DATE: _____
COMPLETION FOREMAN: _____
TYPE COMPLETION: MADE INTO SALT WATER DISPOSAL

CASING DATA: (Production String)

Size	Wt.	Grade	From	To
<u>DO</u>			<u>0</u>	<u>40</u>
<u>9 5/8</u>	<u>36</u>	<u>J55</u>	<u>0</u>	<u>2450</u>
<u>7"</u>	<u>26.423</u>		<u>0</u>	<u>9905</u>
<u>5"</u>	<u>18#</u>	<u>N80</u>	<u>9489</u>	<u>11233</u>

BRIEF COMPLETION SUMMARY: (treatment, etc.)

ALL 7" CSG. PARTED AT 3648 RUN BACK
7" RECONDITIONED CSG. 26# L CSG. PART
RRING CEMENT FROM 5300 - 3600 FROM
3575 - 1370 ACIDIZE PBTD 6542
CEMENT RETAINER CAUSED TO THERE
SET 7" CIBP AT 7100 SEAT BACKED
CEMENT PLUG OF 100 CEMENT
NOTE FIRST CEMENT JOB PUMP FROM
5300 300 SACKS HIGH FILL 200 SACKS
NEET SECOND JOB FROM 3575 240 SACKS
HIGH FILL 100 SACKS NEET

AFE # 62157 Completion Cost: \$ _____

FINAL STATUS: KB

TBC SCREWED ONTO FLANGE
126 JTS. 2 7/8 JTS w/ M.M.S. COLLARS IN COATED
MSOT ON OFF TOOL w/ 2 3/4 PROFILE IN COATED
MSOT. 7" LOK SET PKR. IN COATED
2 7/8 SEAT NIPPLE IN COATED

IN = INTERNALLY COATED w/ PLASTIC

REVISED: _____

P 001 717 699

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to	Utex Oil Co. 445 E. 4500 S. Suite 200		
Street and No.	Salt Lake City, UT 84107		
P.O., State and ZIP Code	Attn: Mr. Steve Tipton		
Postage	\$		
Certified Fee			
Special Delivery Fee			
Restricted Delivery Fee			
Return Receipt Showing to whom and Date Delivered			
Return receipt showing to whom, Date, and Address of Delivery			
TOTAL Postage and Fees	\$		
Postmark or Date	VLC-100		

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

VLC-100 Marked

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address.2. ☐ Restricted Delivery.

3. Article Addressed to:

4. Article Number

Utex Oil Co.

7021-717-699

445 E. 4500 S. Suite 200

Type of Service:

Salt Lake City, Utah 84107

Attn: Mr. Steve Tipton

☒ Registered ☐ Insured
☐ Certified ☐ COD
☐ Express Mail
Always obtain signature of addressee or agent and **DATE DELIVERED.**

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Addressee

6. Signature - Agent

X

7. Date of Delivery

Feb 18 87

PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

P 001 717 691

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <i>Newspaper Agency</i>	
Street and No. <i>Legal Advertising</i>	
P.O., State and ZIP Code <i>43 South Main</i>	
Postage <i>Mezzanine Floor</i>	
Certified Fee	\$
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date	

414 PS Form 3800, Feb. 1982

PS Form 3800, Feb. 1982

D/C-100

Martinez

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent the card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery.

4. Article Number

P-001-717-691

Type of Service:

- ☐ Registered ☐ Insured
☐ Certified ☐ COD
☐ Express Mail

Always obtain signature of addressee agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Addressee

X

JUN 18 1987

6. Signature - Agent

X

7. Date of Delivery

P 001 717 694

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <i>Forenergy, Inc.</i> <i>640 Sunset Circle</i>	
Street and No. <i>Key Biscayne FL 33149</i>	
P.O., State and ZIP Code <i>Attn: Mr. Stig Wennerstrom</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date <i>UIC-100</i>	

410-000-000 U.S.G.P.O. 1984-446-014 *

PS Form 3800, Feb. 1982

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check boxes for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address.2. ☐ Restricted Delivery.

3. Article Addressed to:

4. Article Number

P 001-717-1694

Type of Service:

☒ Registered
☒ Certified
☐ Express Mail
☐ Insured
☐ COD
Always obtain signature of addressee or agent and **DATE DELIVERED**.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Addressee

6. Signature - Agent

7. Date of Delivery

Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

P 001 717 694

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

Sent to <i>Forcenenergy, Inc.</i> <i>4440 Sunset Circle</i>	
Street and No. <i>Key Biscayne FL 33149</i>	
P.O., State and ZIP Code <i>Attn: Mr. Stig Wannerstrom</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$

Postmark or Date

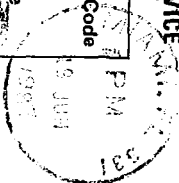
VIC-100

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

PENALTY FOR PRIVATE
USE, \$300RETURN
TO

Print Sender's name, address, and ZIP Code in the space below.

STATE OF UTAH
NATURAL RESOURCES
OIL, GAS, & MINING
3 TRIAD CENTER SUITE 350
SALT LAKE CITY UTAH 84180-1203

P 001 717 695

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <u>G.T.D. Energy, Inc.</u>	
<u>16801 Greenspoint Blvd. Ste 110</u>	
Street and No. <u>Houston TX 77060</u>	
P.O., State and ZIP Code <u>Attn: Mr. D.A. Rappe</u>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date <u>VIC-100</u>	

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery.

3. Article Addressed to:

4. Article Number

Type of Service:

☐ Registered
☐ Certified
☐ Express Mail

☐ Insure
☐ COD

Always obtain signature of addressee agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and paid)

5. Signature Addressee

X

6. Signature — Agent

X

7. Date of Delivery

6-19-87

FDOL-717-695



P 001 717 695

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <u>GID Energy, Inc.</u> <u>1601 Greenpoint Blvd. Ste 110</u>	
Street and No. <u>Houston TX 77060</u>	
P.O., State and ZIP Code <u>Attn: Mr. D.A. Rap...</u>	
Postage	\$.
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date <u>VIC-100</u>	

★ U.S.G.P.O. 1984-446-010

PS Form 3800, Feb. 1982

UNITED STATES POSTAL SERVICE
OFFICIAL BUSINESS

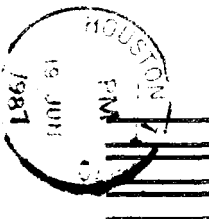
SENDER INSTRUCTIONS

Print your name, address, and ZIP Code in the space below.

- Complete items 1, 2, 3, and 4 on the reverse.
- Attach to front of article if space permits, otherwise affix to back of article.
- Endorse article "Return Receipt Requested" adjacent to number.

RETURN
TO 

Print Sender's name, address, and ZIP Code in the space below.

PENALTY FOR PRIVATE
USE \$300

STATE OF UTAH
NATURAL RESOURCES
OIL, GAS, & MINING
3 TRIAD CENTER SUITE 350
SALT LAKE CITY, UTAH 84180-1203

P 001 737 698

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <i>CSX Oil & Gas Corp.</i> <i>410 17th St - Suite 300</i>	
Street and No. <i>Denver CO 80202</i>	
P.O., State and ZIP Code <i>Attn: Mr. Gary Bell</i>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date <i>VIC-100</i>	

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

VIC-100 Marlaque

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery.

3. Article Addressed to:

4. Article Number

CSX Oil & Gas Corp.
410 17th Street Suite 300
*Denver CO 80202**PC01-717-698*
Type of Service:

Attn: Mr. Gary Bell

☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature — Addressee

6. Signature — Agent

7. Date of Delivery

PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

P 001 717 692

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <u>Lake Fork Ranch + Cattle Co.</u> <u>Star Route, Box 48</u>	
Street and No. <u>MT. Home, UT 84051</u>	
P.O., State and ZIP Code <u>Attn: Mr. Brent C. Brothersen</u>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date <u>VIC-100</u>	

414 PS Form 3811, Feb. 1986 U.S. P.O. 984-446-014 *

PS Form 3800, Feb. 1982

SENDER: Complete items 1 and 2 when additional services are desired, and complete items

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Contact postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address. 2. ☐ Restricted Delivery.

3. Article Addressed to: Lake Fork Ranch + Cattle Co.
Star Route, Box 48
MT. Home, UT 84051
Attn: Mr. Brent C. Brothersen

4. Article Number P-001-717-692

Type of Service:

☐ Registered
☒ Certified
☐ Express Mail
☐ Insured
☐ COD

Always obtain signature of address agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

5. Signature - Addressee

6. Signature - Agent

7. Date of Delivery

PS Form 3811, Feb. 1986

DOMESTIC RETURN F

VIC-100 Montoya

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this form from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult master for fees and check box(es) for additional service(s) requested.

☐ Show to whom delivered, date, and addressee's address. ☐ Restricted Delivery.

Article Addressed to:

Utah Basin Standard
Legal Advertising
PO Box 370
Roosevelt UT 84066

4. Article Number

P-001-717-690

Type of Service:

☐ Registered
☒ Certified
☐ Express Mail

☐ Insured
☐ COD

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

Signature - Addressee

Signature - Agent

Date of Delivery

6-18-87

Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

Sent to	Utah Basin Standard Legal Advertising	
Street and No.	P.O. Box 370	
P.O., State, and ZIP Code	Roosevelt UT 84066	
Postage	\$	
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to whom and Date Delivered		
Return receipt showing to whom, Date, and Address of Delivery		
TOTAL Postage and Fees	\$	
Postmark or Date	VIC-100	

P 001 717 690

UIC-100 Mariage

● **SENDER:** Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address.

2. ☐ Restricted Delivery.

3. Article Addressed to:

4. Article Number

Convest Energy Corp
9401 Fountain View Drive
Suite 700
Houston TX 77057
Attn: Mr. Ken Fagen

Pool-717-697

Type of Service:

☐ Registered
☒ Certified
☐ Express Mail

☐ Insured
☐ COD

Always obtain signature of addressee or agent and DATE DELIVERED.

8. Addressee's Address (ONLY if requested and fee paid)

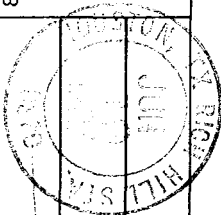
5. Signature - Addressee

X *[Signature]*

6. Signature - Agent

X

7. Date of Delivery



PS Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

P. 001 717 697

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

Sent to	Convest Energy Corp 9401 Fountain View Dr. - Suite 700	
Street and No.	Houston, TX 77057	
P.O., State and ZIP Code	Attn: Mr. Ken Fagen	
Postage	\$	
Certified Fee		
Special Delivery Fee		
Restricted Delivery Fee		
Return Receipt Showing to whom and Date Delivered		
Return receipt showing to whom, Date, and Address of Delivery		
TOTAL Postage and Fees	\$	
Postmark or Date	UIC-100	

UIC-100 MacLaguer

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 and 4. Your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this form from being returned to you. The return receipt fee will provide you the name of the person referred to and the date of delivery. For additional fees the following services are available. Consult master for fees and check box(es) for additional service(s) requested.

☐ Show to whom delivered, date, and addressee's address. ☐ Restricted Delivery.

Article Addressed to:

AIR Limited, Inc.

600 17th Street - Suite 8005

PO Box 749

Denver CO 80201-0749

4. Article Number

P-001-717-1693

Type of Service:

☐ Registered
☒ Certified
☐ Express Mail

☐ Insured
☐ COD

Always obtain signature of addressee or agent and DATE DELIVERED.

Signature - Addressee

[Signature]

Signature - Agent

[Signature]

Date of Delivery

FEB 18 1986

8. Addressee's Address (ONLY if requested and fee paid)

Form 3811, Feb. 1986

DOMESTIC RETURN RECEIPT

PS Form 3800, Feb. 1982

★ U.S.G.P.O. 1984-446-014

Postmark or Date

UIC-100

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
 NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to	AIR Limited, Inc. 600 17th Street - Suite 8005
Street and No.	P.O. Box 749
P.O., State and ZIP Code	Denver CO 80201-0749
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$

P 001 717 693

P 001 717 696

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to <u>Leindersff / KGB Minerals, Inc.</u> <u>2501 Cedar Springs, Suite 340</u>	
Street and No. <u>Dallas TX 75201</u>	
P.O. State and ZIP Code <u>Att: Mr. Bob Backman</u>	
Postage	\$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return receipt showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	\$
Postmark or Date <u>DEC-100</u>	

★ U.S.G.P.O. 1984-446-014

PS Form 3800, Feb. 1982

SENDER: Complete items 1 and 2 when additional services are desired, and complete items 3 a and 3 b. Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent the card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for additional service(s) requested.

1. ☐ Show to whom delivered, date, and addressee's address.2. ☐ Restricted Delivery.

3. Article Addressed to:

Leindersff / KGB Minerals, Inc.
2501 Cedar Springs, Suite 340
Dallas, TX 75201
Att: Mr. Bob Backman

4. Article Number

P-001-717-696

Type of Service:

☒ Registered
☒ Certified
☐ Express Mail

☐ Insured
☐ COD
Always obtain signature of addressee agent and **DATE DELIVERED.**8. Addressee's Address (ONLY if requested and fee paid)

5. Signature — Addressee

X

6. Signature — Agent

X

7. Date of Delivery

6-1-87



116 State Capitol Building
Salt Lake City, UT 84114
Telephone 801-533-5245

office of planning and budget

Norman H. Bangerter, Governor Dale C. Hatch, C.P.A., J.D., Director Michael E. Christensen, Ph.D., Deputy Director

RECEIVED
JUL 02 1987

DIVISION OF
OIL, GAS & MINING

July 1, 1987

Gil Hunt
Division of Oil, Gas and Mining
3 Triad Center - Suite 350
Salt Lake City, Utah 84180-1203

SUBJECT: Lake Fork No. 2-23B4 Water Disposal Well
State Application Identifier #UT870618-070

Dear Mr. Hunt:

The Resource Development Coordinating Committee of the State of Utah has reviewed this proposed action and no comments are indicated.

Thank you for the opportunity of reviewing this document. Please address any other questions regarding this correspondence to Carolyn Wright (801) 533-4971.

Sincerely,

Michael E. Christensen

Michael E. Christensen
Deputy Director

MEC/jw

143 SOUTH MAIN ST.
P.O. BOX 45838
SALT LAKE CITY, UTAH 84145
FED. TAX I.D. # 87-0217663

Newspaper Agency Corporation
The Salt Lake Tribune **DESERET NEWS**
MORNING & SUNDAY EVENING & SUNDAY

Affidavit of Publication

STA
Cou

CAUSE NO. UIC-100
BEFORE THE DIVISION OF OIL,
GAS AND MINING
DEPARTMENT OF NATURAL
RESOURCES
STATE OF UTAH
IN THE MATTER OF THE AP-
PLICATION OF ANR LIMITED,
INCORPORATED FOR ADMIN-
ISTRATIVE APPROVAL TO
CONVERT THE LAKE FORK 2-
23B4 WELL LOCATED IN SEC-
TION 23, TOWNSHIP 2 SOUTH,
RANGE 4 WEST, U.S.M., DU-
CHESNE COUNTY, UTAH TO A
WATER DISPOSAL WELL
THE STATE OF UTAH TO
ALL INTERESTED PARTIES IN
THE ABOVE ENTITLED MAT-
TER

SS.

I, Raylene Vigil Hereby certify that the attached
advertisement of CAUSE NO. UIC-100 BEFORE THE DIVISION OF OIL
for NATURAL RESOURCES was published by the
NEWSPAPER AGENCY CORPORATION, AGENT FOR THE SALT LAKE
TRIBUNE and DESERET NEWS, daily newspapers printed in the English
language with general circulation in Utah, and published in Salt Lake City, Salt
Lake County in the State of Utah.

PUBLISHED ON JUN 21 1987

SUBSCRIBED AND SWORN TO BEFORE ME THIS 22ND DAY OF JUNE 19 87

B. J. Davis
NOTARY PUBLIC

MARCH 1, 1988
COMMISSION EXPIRES
RESIDING IN SALT LAKE COUNTY

RECEIVED
JUN 29 1987

DIVISION OF
OIL, GAS & MINING

Notary hereby given that
ANR Limited, Incorporated has
requested administrative ap-
proval from the Division to con-
vert the following well to a salt-
water disposal well:

Lake Fork #2-23B4
Section 23, Township 2 South,
Range 4 West, U.S.M.
Duchesne County, Utah
INJECTION INTERVAL: Lower
Uinta - Upper Green River For-
mation 4200' to 5831'
MAXIMUM SURFACE PRES-
SURE: 1500 p.s.i.g.
MAXIMUM INJECTION RATE:
6000 BWPD

Conditional approval of this
application will be granted un-
less objections are filed with the
Division of Oil, Gas and Mining
within fifteen days after publi-
cation of this Notice. Objections,
if any, should be mailed to the
Division of Oil, Gas and Mining,
Attention: UIC Program Manag-
er, 3 Triad Center, Suite 350, 355
West North Temple, Salt Lake
City, Utah 84180-1203.

DATED this 15th day of June,
1987.

STATE OF UTAH
DIVISION OF OIL,
GAS AND MINING
/s/ MARJORIE L. ANDERSON
Administrative Assistant

LEGAL ADVERTISING INVOICE

737 MARJORIE E. ANDERSON Administrative Assistant		ACCOUNT NAME		AD NUMBER		TELEPHONE			
E-6		NATURAL RESOURCES				E-6		801-538-5340	
CUST. REF. NO.		SCHEDULE						MISC. CHARGES	
CAUSE UIC-100		JUN 21 1987						.00	
CAPTION				SIZE		TIMES	RATE	AD CHARGE	
CAUSE NO. UIC-100 BEFORE THE				57 LINES		1	1.22	69.54	
DUE AND PAYABLE ON RECEIPT OF THIS INVOICE FOR BILLING INFORMATION CALL 801-237-2796						TOTAL AMOUNT DUE		69.54	

TO INSURE PROPER CREDIT

PLEASE RETURN THIS PORTION

WITH YOUR PAYMENT IN THE ENCLOSED ENVELOPE
MAKE CHECKS PAYABLE TO:

NEWSPAPER AGENCY CORPORATION

(PLEASE WRITE YOUR ACCOUNT
NUMBER ON YOUR CHECK)

BILL TO:

NATURAL RESOURCES
355 W. NORTH TEMPLE
3 TRIAD CENTER SU
SLC

UT 84180

ACCOUNT NUMBER	BILLING DATE
LE-5385340	06/22/87
AD NUMBER	PAY THIS AMOUNT
E-6	69.54

0705556640000060000000000000006954 181666775111117111111111111117065

NEWSPAPER AGENCY CORPORATION
P.O. BOX 45838
SALT LAKE CITY, UTAH 84145

RECEIVED
AUG 21 1987

DIVISION OF OIL
GAS & MINING

June 30, 1987



NORMAN H. BANGERTER
GOVERNOR

DC
ED

STATE OF UTAH
DEPARTMENT OF COMMUNITY AND
ECONOMIC DEVELOPMENT

Division of
State History
(UTAH STATE HISTORICAL SOCIETY)

MAX J. EVANS, DIRECTOR
300 RIO GRANDE
SALT LAKE CITY, UTAH 84101-1182
TELEPHONE 801/533-5755

Chairperson
Resource Development Coordinating Committee
State Planning Office
118 State Capitol
Salt Lake City, Utah 84114

RE: Lake Fork #2-23B4 Water Disposal Well

In Reply Please Refer to Case No. K072

Dear Chairperson:

The Utah Preservation Office has received for consideration the above referenced action. After review of the state's cultural resource files, and the nature of the action, our office concludes that there are no known sites in the project area. Since the project is using a previous well, our office believes that there would be no effect by this project on any cultural sites.

The above is provided on request as outlined by 36 CFR 800 or Utah Code, Title 63-18-37. If you have questions or need additional assistance, please contact Jim Dykman at (801) 533-7039.

Sincerely,

A. Kent Powell
Deputy State Historic
Preservation Officer

JLD:jrc:K072/4377V



STATE OF UTAH
NATURAL RESOURCES
Oil, Gas & Mining

Norman H. Bangerter, Governor
Dee C. Hansen, Executive Director
Dianne R. Nielson, Ph.D., Division Director

355 W. North Temple • 3 Triad Center • Suite 350 • Salt Lake City, UT 84180-1203 • 801-538-5340

July 14, 1987

071721

ANR Limited, Incorporated
600 17th Street, Suite 800S
Post Office Box 749
Denver, Colorado 80201-0749

Gentlemen:

Re: Lake Fork #2-23B4 Well in Section 23, Township 2 South, Range 4 West, U.S.M., Duchesne County, Utah

In accordance with Rule 503(c), Oil and Gas Conservation General Rules, your application for administrative approval to inject water into the referenced well is granted.

The following actions are necessary to fully comply with this approval:

- 1) Compliance with the UIC requirements for operation, maintenance and reporting for Class II injection wells.
- 2) Conformance with all conditions of the submitted application including the modifications as outlined in the letter from the Division dated May 26, 1987.

If you have any questions regarding this approval or the necessary requirements, please contact this office.

Best regards,

Dianne R. Nielson
Director

mfp
7627U

AFFIDAVIT OF PUBLICATION

County of Duchesne, }
STATE OF UTAH } ss.

I, Craig Ashby on oath, say that I am the PUBLISHER of the Uintah Basin Standard, a weekly newspaper of general circulation, published at Roosevelt, State and County aforesaid, and that a certain notice, a true copy of which is hereto attached, was published in the full issue of such newspaper for one consecutive issues, and that the first publication was on the 24 day of June, 1987, and that the last publication of such notice was in the issue of such newspaper dated the 24 day of June, 1987.

Subscribed and sworn to before me this 10th day of July, 1987

MY COMMISSION EXPIRES MARCH 1, 1991

My commission expires 19

Publication fee, \$.....

PUBLIC NOTICE CAUSE NO UIC-100

BEFORE THE DIVISION OF OIL, GAS AND MINING DEPARTMENT OF NATURAL RESOURCES STATE OF UTAH.

IN THE MATTER OF THE APPLICATION OF ANR LIMITED, INCORPORATED FOR ADMINISTRATIVE APPROVAL TO CONVERT THE LAKE FORK 2-23B4 WELL LOCATED IN SECTION 23, TOWNSHIP 2 SOUTH, RANGE 4 WEST, U.S.M., DUCHESNE COUNTY, UTAH TO A WATER DISPOSAL WELL.

THE STATE OF UTAH TO ALL INTERESTED PARTIES IN THE ABOVE ENTITLED MATTER.

Notice is hereby given that ANR Limited, Incorporated has requested administrative approval from

the Division to convert the following well to a saltwater disposal well:

Lake Fork No. 2-23B4 Section 23, Township 2 South, Range 4 West, U.S.M. Duchesne County, Utah

INJECTION INTERVAL: Lower Uinta - Upper Green River Formation 4200' to 5831'.

MAXIMUM SURFACE PRESSURE: 1500 psig.

MAXIMUM INJECTION RATE: 6000 BWPD.

Conditional approval of this application will be granted unless objections are filed with the Division of Oil, Gas and Mining within fifteen days after publication of this Notice. Objections, if any, should be mailed to the Division of Oil, Gas and Mining, Attention: UIC Program Manager, 3 Triad Center, Suite 350, 355 West North Temple, Salt Lake City, Utah 84180-1203

DATED this 15th day of June, 1987.

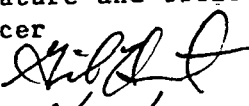
STATE OF UTAH
DIVISION OF OIL,
GAS AND MINING
MARJORIE L. ANDERSON
Administrative Assistant
Published in the Uintah
Basin Standard June 24,
1987.

RECEIVED
JUL 13 1987

DIVISION OF
OIL, GAS & MINING

STATE ACTIONS

Mail to:
Grants Coordinator
State Clearinghouse
116 State Capitol, SLC, Ut. 84114
533-4971

1. Administering State Agency STATE OF UTAH NATURAL RESOURCES OIL, GAS, & MINING 3 TRIAD CENTER, SUITE 350 SALT LAKE CITY, UTAH 84180-1203	2. State Application Identifier Number: (assigned by State Clearinghouse) 3. Approximate date project will start: July 7, 1987
4. Areawide clearinghouse(s) receiving State Action: (to be sent out by agency in block 1) UINTAH BASIN ASSOCIATION OF GOVERNMENTS BOX 1449 ROOSEVELT UT 84066 ATTN: GEORGE ROTH	
5. Type of action: <input type="checkbox"/> Lease <input checked="" type="checkbox"/> Permit <input type="checkbox"/> License <input type="checkbox"/> Land Aquisition <input type="checkbox"/> Land Sale <input type="checkbox"/> Land Exchange <input type="checkbox"/> Other	
6. Title of proposed action: LAKE FORK #2-23B4 WATER DISPOSAL WELL	
7. Description: APPROVAL FOR POSSIBLE CONVERSION OF A PREVIOUS PRODUCING WELL TO A DISPOSAL WELL, FOR THE PURPOSE OF DISPOSING OF PRODUCED WATER.	
8. Land affected (site location map required) (indicate county) SECTION 23, TOWNSHIP 2 SOUTH, RANGE 4 WEST, DUCHESNE COUNTY, UTAH	
9. Has the local government(s) been contacted? NO	
10. Possible significant impacts likely to occur: NONE	
11. Name and phone number of district representative from your agency near project site, if applicable: N/A	
12. For further information, contact: GIL HUNT 538-5340 Phone:	13. Signature and title of authorized officer  Date: 6/17/87

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS, AND MINING

SUBMIT IN TRIPPLICATE
 (Other instructions on
 reverse side)

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to or different reservoir.
 Use "APPLICATION FOR PERMIT" for such proposals.)

1. OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input type="checkbox"/> 2. NAME OF OPERATOR ANR Limited Inc. 3. ADDRESS OF OPERATOR P. O. Box 749, Denver, Colorado 80201-0749 4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1985' FNL & 2131' FEL 14. PERMIT NO. 43-013-30038 15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6288' GL		5. LEASE DESIGNATION AND SERIAL NO. Patented TA-6RRV 6. IF INDIAN, ALLOTTEE OR TRIBE NAME N/A 120315 7. UNIT AGREEMENT NAME N/A 8. FARM OR LEASE NAME Brotherson 9. WELL NO. 1-23B4 10. FIELD AND POOL, OR WILDCAT Altamont 11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA Sec. 23-T2S-R4W 12. COUNTY OR PARISH Duchesne 13. STATE Utah
---	--	---

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) ☐REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☐Convert to rod pump ☒

(Note: Report results of multiple completion on Well
 Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Converted well from gas lift to rod pump 10-8-87.

18. I hereby certify that the foregoing is true and correct

SIGNED

Brenda W. Swank
 Brenda W. Swank

TITLE Assoc. Regulatory Analyst

DATE 11-30-87

(This space for Federal or State office use)

APPROVED BY

CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE



State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

1594 West North Temple, Suite 1210
PO Box 145801
Salt Lake City, Utah 84114-5801
(801) 538-5340 telephone
(801) 359-3940 fax
(801) 538-7223 TTY
www.nr.utah.gov

Michael O. Leavitt
Governor

Robert L. Morgan
Executive Director

Lowell P. Braxton
Division Director

September 18, 2003

William G. McGaughey
El Paso Production
P.O. Box 120
Altamont, Utah 84001-0120

Subject: Lake Fork 2-23B4, Sec. 23, T2S, R4W, Duchesne County
API 43-013-30038

Dear Mr. McGaughey:

In reference to your letter of August 12, 2003, and your request to monitor the annulus pressure daily to verify continuing mechanical integrity of the referenced well. I agree that at a maximum injection pressure of 600 psi the potential loss of fluid is minimal and not significant at this time. Therefore, we will allow continued injection into this well, with daily annulus monitoring, for a two year period. If annulus pressure is detected, injection must cease immediately and the well must be repaired. Otherwise, the well will be re-scheduled for integrity testing in two years. The maximum allowable injection pressure during this period will be 600 psi.

If this situation is unacceptable, or you want to discuss the matter please call me at 801-538-5297.

Sincerely,

Gil Hunt
Technical Services Manager

GH/ts

cc: compliance file
well file
Dennis Ingram

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET

ROUTING

1. DJJ

2. CDW

Change of Operator (Well Sold)

X Operator Name Change

The operator of the well(s) listed below has changed, effective:

7/1/2006

FROM: (Old Operator):

N1845-El Paso Production O&G Company

1001 Louisiana Street

Houston, TX 77002

Phone: 1 (713) 420-2300

TO: (New Operator):

N3065-El Paso E&P Company, LP

1001 Louisiana Street

Houston, TX 77002

Phone: 1 (713) 420-2131

CA No.

Unit:

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

1. (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 7/5/2006
2. (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 7/5/2006
3. The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 3/30/2006
4. Is the new operator registered in the State of Utah: YES Business Number: 2114377-0181
5. If **NO**, the operator was contacted on: _____
- 6a. (R649-9-2) Waste Management Plan has been received on: _____ requested 7/18/06
- 6b. Inspections of LA PA state/fee well sites complete on: ok
- 6c. Reports current for Production/Disposition & Sundries on: _____
7. **Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM not yet BIA not yet
8. **Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: not yet
9. **Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: n/a
10. **Underground Injection Control ("UIC")** The Division has approved UIC Form 5, **Transfer of Authority to Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 7/14/2006

DATA ENTRY:

1. Changes entered in the **Oil and Gas Database** on: 7/19/2006
2. Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 7/19/2006
3. Bond information entered in RBDMS on: 7/19/2006
4. Fee/State wells attached to bond in RBDMS on: 7/19/2006
5. Injection Projects to new operator in RBDMS on: 7/19/2006
6. Receipt of Acceptance of Drilling Procedures for APD/New on: 7/5/2006

BOND VERIFICATION:

1. Federal well(s) covered by Bond Number: 103601420
2. Indian well(s) covered by Bond Number: 103601473
3. (R649-3-1) The **NEW** operator of any fee well(s) listed covered by Bond Number 400JU0708
- a. The **FORMER** operator has requested a release of liability from their bond on: n/a applicable wells moved
- The Division sent response by letter on: n/a

LEASE INTEREST OWNER NOTIFICATION:

4. (R649-2-10) The **FORMER** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 7/20/2006

COMMENTS:

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: MULTIPLE LEASES
2. NAME OF OPERATOR: EL PASO PRODUCTION OIL AND GAS COMPANY N1845		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 1339 EL SEGUNDO AVE NE ALBUQUERQUE NM 87113		7. UNIT or CA AGREEMENT NAME:
PHONE NUMBER: (505) 344-9380		8. WELL NAME and NUMBER: SEE ATTACHED
10. FIELD AND POOL, OR WILDCAT: SEE ATTACHED		9. API NUMBER:

4. LOCATION OF WELL

FOOTAGES AT SURFACE: SEE ATTACHED

COUNTY: UINTAH & DUCHESNE

QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:

STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____ <input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input checked="" type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/RESUME) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input type="checkbox"/> OTHER: <u>CHANGE OF OPERATOR</u>

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

PLEASE BE ADVISED THAT EL PASO PRODUCTION OIL AND GAS COMPANY (CURRENT OPERATOR) HAS TRANSFERRED ITS OPERATORSHIP TO EL PASO E&P COMPANY, L.P. (NEW OPERATOR) EFFECTIVE ~~JUNE 30~~ July 1, 2006 AND THAT EL PASO E&P COMPANY, L.P. IS CONSIDERED TO BE THE NEW OPERATOR OF THE ATTACHED WELL LOCATIONS.

EL PASO E&P COMPANY, L.P. IS RESPONSIBLE UNDER THE TERMS AND CONDITIONS OF THE LEASE(S) FOR THE OPERATIONS CONDUCTED UPON LEASED LANDS. BOND COVERAGE IS PROVIDED BY THE STATE OF UTAH STATEWIDE BLANKET BOND NO. 400JU0705, BUREAU OF LAND MANAGEMENT NATIONWIDE BOND NO. 103601420, AND BUREAU OF INDIAN AFFAIRS NATIONWIDE BOND NO. 103601473.

El Paso E & P Company, L. P. N3065
1001 Louisiana
Houston, TX 77002

William M. Griffin
William M. Griffin, Sr. Vice President

NAME (PLEASE PRINT) CHERYL CAMERON	TITLE AUTHORIZED REGULATORY AGENT
SIGNATURE <u>Cheryl Cameron</u>	DATE 6/20/2006

(This space for State use only)

APPROVED 7/19/06
Earlene Russell
Division of Oil, Gas and Mining
Earlene Russell, Engineering Technician

(5/2000)

(See Instructions on Reverse Side)

RECEIVED
JUL 05 2006
DIV. OF OIL, GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

UIC FORM 5

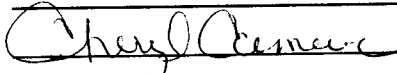
TRANSFER OF AUTHORITY TO INJECT

Well Name and Number LAKE FORK 2-23B4	API Number 4301330038
Location of Well Footage : _____ County : DUCHESNE QQ, Section, Township, Range: SWNE 23 2S 4W State : UTAH	Field or Unit Name ALTAMONT/BLUEBELL Lease Designation and Number FEE

EFFECTIVE DATE OF TRANSFER: 6/30/2006

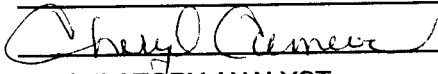
CURRENT OPERATOR

Company: EL PASO PRODUCTION OIL AND GAS CO
Address: 1339 EL SEGUNDO AVE NE
city ALBUQUERQUE state NM zip 87113
Phone: (505) 344-9380
Comments: _____

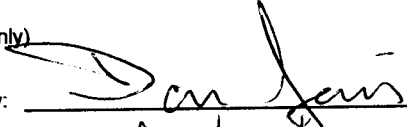
Name: CHERYL CAMERON
Signature: 
Title: REGULATORY ANALYST
Date: 6/6/2006

NEW OPERATOR

Company: EL PASO E&P COMPANY, L.P.
Address: 1339 EL SEGUNDO AVE NE
city ALBUQUERQUE state NM zip 87113
Phone: (505) 344-9380
Comments: _____

Name: CHERYL CAMERON
Signature: 
Title: REGULATORY ANALYST
Date: 6/6/2006

(This space for State use only)

Transfer approved by: 
Title: Geologist

Approval Date: 7/14/06

Comments: _____

STATE OF UTAH
DIVISION OF OIL GAS AND MINING

INJECTION WELL - PRESSURE TEST

Well Name: <u>LAKE FORK 2-23 BY</u>	API Number: <u>43-013-30038</u>
Qtr/Qtr: <u>SW/NE</u>	Section: <u>23</u> Township: <u>25</u> Range: <u>4W</u>
Company Name: <u>EL PASO PRODUCTION</u>	
Lease: State <u>TX</u> Fee <u> </u> Federal <u> </u> Indian <u> </u>	
Inspector: <u>[Signature]</u>	Date: <u>6-13-07</u>

Initial Conditions:

Tubing - Rate: Pressure: 240 psi

Casing/Tubing Annulus - Pressure: 0 psi

Conditions During Test:

Time (Minutes)	10:35 AM	Annulus Pressure	11:07	Tubing Pressure
0		<u>1000</u>	<u>1000</u>	<u>240</u> <u>240</u>
5		<u>780</u>		<u>240</u> <u>680</u>
10		<u>600</u>		<u>240</u>
15		<u>570</u>		<u>240</u>
20		<u>550</u>		<u>240</u>
25		<u>540</u>		<u>240</u>
30		<u>530</u>		<u>240</u>

Results: Pass/Fail Pass

Conditions After Test:

Tubing Pressure: 240 psi

Casing/Tubing Annulus Pressure: 550 psi

COMMENTS: Tested @ Division request because of
part failure ordered to repair
well on 6/13/07

[Signature]
Operator Representative

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

1. TYPE OF WELL OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <u>WATER DISPOSAL WELL</u>		5. LEASE DESIGNATION AND SERIAL NUMBER:
2. NAME OF OPERATOR: EL PASO E&P COMPANY, L.P.		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 1099 18TH ST, STE 1900 CITY DENVER STATE CO ZIP 80202		7. UNIT or CA AGREEMENT NAME:
PHONE NUMBER: (303) 291-6400		8. WELL NAME and NUMBER: LAKE FORK 2-23B4
4. LOCATION OF WELL FOOTAGES AT SURFACE:		9. API NUMBER: 4301330038
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: 2S 4W 23		10. FIELD AND POOL, OR WILDCAT: ALTAMONT
COUNTY: DUCHESNE		
STATE: UTAH		

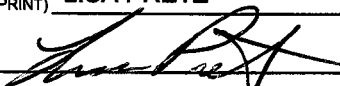
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE	<input type="checkbox"/> DEEPEN	<input type="checkbox"/> REPERFORATE CURRENT FORMATION
	<input type="checkbox"/> ALTER CASING	<input type="checkbox"/> FRACTURE TREAT	<input type="checkbox"/> SIDETRACK TO REPAIR WELL
	<input checked="" type="checkbox"/> CASING REPAIR	<input type="checkbox"/> NEW CONSTRUCTION	<input type="checkbox"/> TEMPORARILY ABANDON
	<input type="checkbox"/> CHANGE TO PREVIOUS PLANS	<input type="checkbox"/> OPERATOR CHANGE	<input type="checkbox"/> TUBING REPAIR
	<input type="checkbox"/> CHANGE TUBING	<input type="checkbox"/> PLUG AND ABANDON	<input type="checkbox"/> VENT OR FLARE
<input checked="" type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____	<input type="checkbox"/> CHANGE WELL NAME	<input type="checkbox"/> PLUG BACK	<input type="checkbox"/> WATER DISPOSAL
	<input type="checkbox"/> CHANGE WELL STATUS	<input type="checkbox"/> PRODUCTION (START/RESUME)	<input type="checkbox"/> WATER SHUT-OFF
	<input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS	<input type="checkbox"/> RECLAMATION OF WELL SITE	<input type="checkbox"/> OTHER: _____
	<input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

OPERATOR PERFORMED THE FOLLOWING WORK ON THE SUBJECT WELL BETWEEN 11/29/2007 AND 1/24/2008:

RELEASE PKR. TOOH W/ TBG. TEST CSG, ISOLATE CSG LEAK FROM 353' - 384'. RIH AND SET CBP @ 4120'. DUMP BAIL 12' CMT ON PLUG. RIH AND SET CICR @ 3680'. PRESS TEST CSG TO 1500 PSI, OK. PUMP 360 SKS CMT. TIH AND TAG RET @ 3690'. DRILL UP RET TO 4110'. CIRC CLEAN. TIH W/ PKR AND TEST CSG ABOVE 3710', GOOD. TOOH W/ TBG AND PKR. SQUEEZ CSG LEAK W/ 5.1 BBLS CMT. DRILL CMT OUT TO 40100'. RIH W/ TBG. EOT @ 4102'. SPOT 88 SX MICRO MATRIX CMT, BALANCED. PRESS UP TO 2000 PSI. DRILL OUT CMT TO 4104'. CIRC CLEAN. TIH AND SET CMT RETAINER @ 3680'. PUMP 350 SX MEAT G CMT. DRILL OUT CMT 4063', CIRC HOLE CLEAN. PRESS TEST CSG TO 1500 PSI. DRILL OUT CMT AND CBP @ 4120'. CLEAN OUT TO 5943'. PERFORATE FROM 3710' - 3712', 3SPF. TIH W/ TBG AND PKR. SET PKR @ 4100' IN 10K COMPRESSION.

RETURN WELL TO INJECTION.

NAME (PLEASE PRINT) <u>LISA PRETZ</u>	TITLE <u>ENGINEERING TECH</u>
SIGNATURE 	DATE <u>3/12/2008</u>

(This space for State use only)

RECEIVED

MAR 17 2008

DIV. OF OIL, GAS & MINING

STATE OF UTAH DEPARTMENT OF NATURAL RESOURCES DIVISION OF OIL, GAS, AND MINING		FORM 9
SUNDRY NOTICES AND REPORTS ON WELLS Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.		5. LEASE DESIGNATION AND SERIAL NUMBER: FEE
1. TYPE OF WELL Water Disposal Well		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
2. NAME OF OPERATOR: EL PASO E&P COMPANY, LP		7. UNIT or CA AGREEMENT NAME:
3. ADDRESS OF OPERATOR: 1001 Louisiana St. , Houston, TX, 77002		8. WELL NAME and NUMBER: LAKE FORK 2-23B4
4. LOCATION OF WELL FOOTAGES AT SURFACE: 1985 FNL 2131 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 23 Township: 02.0S Range: 04.0W Meridian: U		9. API NUMBER: 43013300380000
PHONE NUMBER: 713 420-5038 Ext		9. FIELD and POOL or WILDCAT: ALTAMONT
COUNTY: DUCHESNE		STATE: UTAH

11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

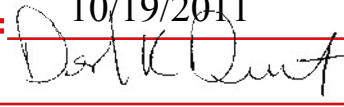
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT Approximate date work will start: 10/18/2011 <input type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: <input type="checkbox"/> SPUD REPORT Date of Spud: <input type="checkbox"/> DRILLING REPORT Report Date:	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> DEEPEN <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PRODUCTION START OR RESUME <input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> WATER SHUTOFF <input type="checkbox"/> WILDCAT WELL DETERMINATION	<input type="checkbox"/> ALTER CASING <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> SI TA STATUS EXTENSION <input type="checkbox"/> OTHER	<input checked="" type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CONVERT WELL TYPE <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> PLUG BACK <input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION <input type="checkbox"/> TEMPORARY ABANDON <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> APD EXTENSION OTHER:

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Please see attached procedure for detail.

Approved by the
Utah Division of
Oil, Gas and Mining

Date: 10/19/2011

By: 

NAME (PLEASE PRINT) Maria S. Gomez	PHONE NUMBER 713 420-5038	TITLE Sr. Regulatory Analyst
SIGNATURE N/A	DATE 10/19/2011	

Lake Fork 2-23B4 SWD Procedure Summary

- POOH w/tubing and packer
- Circulate & Clean wellbore
- Run 60 finger caliper log to identify casing anomalies
- Set expandable liner over casing leaks
- RIH w/packer and tubing
- Set packer at $\pm 4,110'$ and perform MIT on backside
- If tests good contact state to have MIT witnessed
- Clean location and resume injection

<div>STATE OF UTAH</div> <div>DEPARTMENT OF NATURAL RESOURCES</div> <div>DIVISION OF OIL, GAS, AND MINING</div>		<div>FORM 9</div>	
<div>SUNDRY NOTICES AND REPORTS ON WELLS</div> <div>Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.</div>		5.LEASE DESIGNATION AND SERIAL NUMBER: FEE	
		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:	
		7.UNIT or CA AGREEMENT NAME:	
1. TYPE OF WELL Water Disposal Well		8. WELL NAME and NUMBER: LAKE FORK 2-23B4	
2. NAME OF OPERATOR: EL PASO E&P COMPANY, LP		9. API NUMBER: 43013300380000	
3. ADDRESS OF OPERATOR: 1001 Louisiana St. , Houston, TX, 77002		PHONE NUMBER: 713 420-5038 Ext	
9. FIELD and POOL or WILDCAT: ALTAMONT		4. LOCATION OF WELL FOOTAGES AT SURFACE: 1985 FNL 2131 FEL QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN: Qtr/Qtr: SWNE Section: 23 Township: 02.0S Range: 04.0W Meridian: U	
COUNTY: DUCHESNE		STATE: UTAH	
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION		TYPE OF ACTION	
<div><input type="checkbox"/> NOTICE OF INTENT Approximate date work will start:</div> <div><input checked="" type="checkbox"/> SUBSEQUENT REPORT Date of Work Completion: 10/29/2011</div> <div><input type="checkbox"/> SPUD REPORT Date of Spud:</div> <div><input type="checkbox"/> DRILLING REPORT Report Date:</div>		<div><input type="checkbox"/> ACIDIZE</div> <div><input type="checkbox"/> CHANGE TO PREVIOUS PLANS</div> <div><input type="checkbox"/> CHANGE WELL STATUS</div> <div><input type="checkbox"/> DEEPEN</div> <div><input type="checkbox"/> OPERATOR CHANGE</div> <div><input type="checkbox"/> PRODUCTION START OR RESUME</div> <div><input type="checkbox"/> REPERFORATE CURRENT FORMATION</div> <div><input type="checkbox"/> TUBING REPAIR</div> <div><input type="checkbox"/> WATER SHUTOFF</div> <div><input type="checkbox"/> WILDCAT WELL DETERMINATION</div> <div><input type="checkbox"/> ALTER CASING</div> <div><input type="checkbox"/> CHANGE TUBING</div> <div><input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS</div> <div><input type="checkbox"/> FRACTURE TREAT</div> <div><input type="checkbox"/> PLUG AND ABANDON</div> <div><input type="checkbox"/> RECLAMATION OF WELL SITE</div> <div><input type="checkbox"/> SIDETRACK TO REPAIR WELL</div> <div><input type="checkbox"/> VENT OR FLARE</div> <div><input type="checkbox"/> SI TA STATUS EXTENSION</div> <div><input type="checkbox"/> OTHER</div> <div><input checked="" type="checkbox"/> CASING REPAIR</div> <div><input type="checkbox"/> CHANGE WELL NAME</div> <div><input type="checkbox"/> CONVERT WELL TYPE</div> <div><input type="checkbox"/> NEW CONSTRUCTION</div> <div><input type="checkbox"/> PLUG BACK</div> <div><input type="checkbox"/> RECOMPLETE DIFFERENT FORMATION</div> <div><input type="checkbox"/> TEMPORARY ABANDON</div> <div><input type="checkbox"/> WATER DISPOSAL</div> <div><input type="checkbox"/> APD EXTENSION</div> <div>OTHER: <input type="text"/></div>	
12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc. See attached operations summary for details.			
NAME (PLEASE PRINT) Maria S. Gomez		PHONE NUMBER 713 420-5038	
TITLE Principle Regulatory Analyst		DATE 12/21/2011	
SIGNATURE N/A			

1 General

1.1 Customer Information

Company	WESTERN
Representative	
Address	

1.2 Well Information

Well	LAKE FORK 2-23B4 SWD		
Project	ALTAMONT BLUEBELL SWD WELLS	Site	LAKE FORK 2-23B4 SWD
Rig Name/No.	PEAK/1100*	Event	WORKOVER LAND
Start Date	10/17/2011	End Date	
Spud Date	5/14/1970	UWI	023-002-S 004-W 30
Active Datum	GROUND LEVEL @6,288.0ft (above Mean Sea Level)		
Afe No./Description	155626/43962 / LAKE FORK 2-23B4 SWD		

2 Summary

2.1 Operation Summary

Date	Time Start-End		Duration (hr)	Phase	Activity	Sub	OP Code	MD From (ft)	Operation
10/18/2011	6:00	7:30	1.50	MIRU	28		P		CREW TRAVEL HELD SAFETY MEETING ON MOVING AND RIGGING UP RIG. FILLED OUT JSA.
	7:30	12:00	4.50	MIRU	01		P		ROAD RIG FROM THE 2-30A1E MIRU
	12:00	13:30	1.50	MIRU	01		P		SPOT PUMP AND TANK RAN HARDLINES.
	13:30	14:30	1.00	WBP	06		P		0 CSIP, 300 TSIP . OPENED TBG FLOWED 250 BBLS @ 6 BPM. PUMPED 40 BBLS BRINE DOWN TBG.
	14:30	16:30	2.00	WBP	16		P		NIPPLE DOWN WELLHEAD NU BOPS. RU RIG FLOOR
	16:30	17:00	0.50	PRDHEQ	39				RELEASED PKR TOO H W/ 2-JTS 3 1/2 J-55 DUOLINE. STARTED FLOWING UP CSG @ 6 BPM. SECURED WELL SDFN.
10/19/2011	6:00	7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON TRIPPING TUBING AND WELL CONTROL.
	7:30	11:00	3.50						CSIP 200 TSIP 200. OPENED WELL FLOWING 6 BPM. CIRCULATE WELL W/ BRINE WATER PUMPED 250 BBLS RETURNED 600
	11:00	14:00	3.00						CSG FLOWING TO CELLAR 6 BPM NIPPLED UP WASHINGTON HEAD AND RUBBER. TOO H W/ 64-JTS 3 1/2 J-55 DOULINE TBG. EOT @ 2100'. SECURED WELL SDFN
10/20/2011	6:00	7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING TRIPPING TUBING AND TUBING ELEVATORS. FILLED OUT JSA.
	7:30	9:30	2.00	WBP	15		P		UNLOADED 11.6 CALCIUM CHOLRIDE IN FRAC TANK, CIRCULATED 56 BBLS DOWN CSG, RETURNED 140 UP TBG. SHUT CSG IN BULLHEADED 18 BBLS DOWN TBG. WELL ON VACCUM.
	9:30	11:00	1.50	WBP	39		P		TOOH W/ 68-JTS 3 1/2 J-55 DUOLINE TBG, X-OVER AND ON OFF TOOL. LEFT PKR DOWN HOLE.
	11:00	12:00	1.00	WBP	18		P		CHANGED OVER TO RUN 2 7/8 TBG.
	12:00	18:00	6.00	WBP	39		P		PU AND TALLIED ON OFF TOOL, 1-JT 2 7/8 N-80 EUE TBG, SN, 189-JTS OF 2 7/8 N-80. LATCHED ONTO PKR @ 5928, POOH 40 ' SET PKR, RELEASED PKR TOO H W/ TUBING AND PKR.
	18:00	19:00	1.00	WBP	39		P		RIH W/ SN, 61-JTS 2 7/8 N-80 EUE TBG. EOT @ 1905' SECURED WELL SDFN.
10/21/2011	6:00	7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON WIRELINE SAFETY. FILLED OUT JSA .
	7:30	8:00	0.50	WBP	10		P		TOOH W/ 61-JTS 2 7/8 N-80 EUE TBG AND SEAT NIPPLE.

2.1 Operation Summary (Continued)

Date	Time Start-End	Duration (hr)	Phase	Activity	Sub	OP Code	MD From (ft)	Operation
	8:00 11:00	3.00	WBP	22		P		RU WIRELINE RIH W/ 56 MULTI FINGER CALIPER LOG. LOGGED FROM 4200' TO SURFACE.
	11:00 18:00	7.00	WBP	39		P		RIH W/ TSS PLUG, RH , 4' 2 7/8 TBG SUB, HD PKR, 1-JT 2 7/8 N-80 EUE TBG, SN AND 130 JTS 2 7/8 N-80 EUE TBG SET PLUG @ 4120 PKR @ 4102 PRESSURE TEST TBG @ 1100 PSI LOST 100 PSI IN 5 MIN, TEST CSG @ 1100 PSI LOST 225 PSI IN 15 MIN, MOVED PLUG TO 4104' MOVED PKR TO 4089'. TEST DOWN TBG @ 1100 LOST 100 PSI IN 15 MIN. TESTED CSG LOST 140 PSI IN 15 MIN. MOVED PLUG TO 3600 AND PKR TO 3571' PRESSURE TEST TUBING 1100 PSI NO LEAK PRESSURE TEST CSG @ 1100 NO LOST. MOVED PLUG DOWN TO 4104'. PKR @ 3790' PRESSURE TEST TBG @ 1100 PSI LOST 125 PSI IN 15 MIN. PRESSURE TEST DOWN CSG LOST 175 PSI IN 15 MIN. RELEASED PKR SECURE WELL SDFN.
10/22/2011	6:00 7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON TRIPPING PACKER AND PLUG, PRESSURE TESTING.
	7:30 9:00	1.50	WBP	20		P		SET PLUG @ 4190' AND PKR @ 4174' INJECTING @ 1/2 BPM @ 500 PSI. MOVED PLUG TO 4170 AND PKR TO 4142 PRESSURE TEST @ 1100 PSI NO LEAK. DECIDED TO RUN PATCH FROM 3600' TO @ 4150'
	9:00 12:00	3.00	WBP	39				TOOH W/ 132-JTS 2 7/8 N-80 EUE TBG, SN, 1-JT 2 7/8 N-80 EUE TBG, PKR, 4' 2 7/8 N80 TBG SUB, RH AND PLUG. RIH W/ 61 JTS 2 7/8 N-80 TUBING SECURED WELL SDFN.
10/23/2011								NO ACTIVITY
10/24/2011								NO ACTIVITY
10/25/2011	6:00 7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON PU COLLARS FILLED OUT JSA.
	7:30 8:30	1.00	WBP	39		P		TOOH W/ 61-JTS 2 7/8 N-80 EUE TBG AND SN.
	8:30 11:00	2.50	WBP	18		P		UNLOADED TOOLS FOR CASING PATCH.
	11:00 14:00	3.00	WBP	39		P		PU AND TALLIED TAPERED MILL STRING MILL, SCRAPER AND 3 1/2 DC. STACKED OUT AT 35', STRING MILL WAS 6 1/8". LD TOOLS. WAIT ON PKR.
	14:00 18:00	4.00	WBP	39		P		RIH W/ HD PKR AND 117-JTS 2 7/8 . SET PKR @ 3665' PRESSURE TEST CSG TO SURFACE 1200 PSI HELD RELEASED PKR TOOH W/ 57-JTS 2 7/8 N-80 EUE TBG EOT @ 1875' SECURED WELL SDFN.
10/26/2011	6:00 7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON TRIPPING TUBING AND PU DRILL COLLARS. FILLED OUT JSA
	7:30 8:30	1.00	WBP	39		P		TOOH W/ 60-JTS 2 7/8 N-80 EUE TBG AND HD PKR
	8:30 12:30	4.00	WBP	39		P		PU AND TALLIED 6 1/4" TAPERED MILL, 7" CSG SCRAPER, BIT SUB, X-OVER, 6 1/4" STRING MILL, X-OVER, JAR, 4 3 1/2 DC, X-OVER, 129-JTS 2 7/8 TUBING WORKED FROM 3585 TO 4184' 3 TIMES SEEN NOTHING, TOOH W/ TUBING AND BHA,
	12:30 18:00	5.50	WBP	39		P		RIH W/ 6 1/4" SHOE, 8-JTS 5 3/4 WASH PIPE, X-OVER, JARS, 4-3 1/2" DC, X-OVER, 121 JTS 2 7/8 N-80 EUE TBG TO 4184'. TOOH W/ 71 JTS 2 7/8 N80 EUE TBG. EOT @ 2001'. SECURED WELL SDFN.
10/27/2011	6:00 7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON TRIPPING TUBING AND LAYING DOWN WASH PIPE.
	7:30 10:30	3.00	WBP	39		P		LD 50-JTS 2 7/8 N-80 EUE TBG, 4-3 1/2 DC, 8-JTS 5 3/4 WASH PIPE AND 6 1/8" SHOE.
	10:30 12:00	1.50	WBP	39		P		CHANGED OVER TO RUN 3 1/2 TBG, PU AND TALLIED 48-3 1/2 10' TBG SUBS AND STOOD IN DERRICK
	12:00 13:30	1.50	WBP	24		P		RU CASING TONGS AND EQUIPMENT.

2.1 Operation Summary (Continued)

Date	Time Start-End	Duration (hr)	Phase	Activity	Sub	OP Code	MD From (ft)	Operation
	13:30 17:00	3.50	WBP	39		P		PICKED UP METAL SKIN CSG PATCH. @ 528' BEFORE SHRINKAGE 17-JTS. RIH W/ INNER TBG, PU AND SPACED OUT SETTING TOOL. RIH W/ 4-JTS 2 7/8 N-80 EUE TBG. SECURED WELL SDFN.
10/28/2011	6:00 7:30	1.50	WBP	29		P		CREW TRAVEL HELD SAFETY MEETING ON TRIPPING TUBING AND PATCH
	7:30 14:00	6.50	WBP	39		P		CONTINUED RIH W/ 110- JTS 2 7/8 N-80 EUE TBG TTL OF 114-JTS. SET BTM METAL SKIN PATCH 4165' SET FIRST 100' W/ SETTING TOOL PUMPING 5000 PSI DOWN TBG. PULLED THRU REST OF PATCH @ 60 K OVER STRING WEIGHT.
	14:00 18:00	4.00	WBP	39				LD 114-JTS 2 7/8 N-80 EUE TBG, SETTING TOOL AND INNER STRING. RIH W/ 72-JT 2 7/8 TBG. SECURED WELL SDFN
10/29/2011	6:00 7:30	1.50	WBP	28		P		CREW TRAVEL HELD SAFETY MEETING ON LAYING DOWN TUBING FILLED OUT JSA
	7:30 9:00	1.50	WBP	24		P		LD 72-JTS 2 7/8 L-80 EUE TBG AND SEAT NIPPLE.
	9:00 13:30	4.50	INSTUB	39		P		CHANGED OVER TO RUN 3 1/2 TBG, TALLIED AND RIH W/ BAKER INFLATABLE PKR, 2 3/8 SEAT NIPPLE, X-OVER 118-JTS 3 1/2 DUOLINE J-55 TBG. COLLARS STARTED STACKING OUT ON PATCH.
	13:30 16:30	3.00	PRDHEQ	39		P		TOOH W/ TBG LD 18-JTS 3 1/2, INSPECTED PKR.
	16:30 18:00	1.50	INSTUB	39		P		PU AND TALLIED INFLATABLE PKR, 2 3/8 SN, X-OVER, 20-JTS 2 7/8 L-80 EUE TBG CHANGING OUT COLLARS TO BEVELED, X-OVER AND 2-JTS 3 1/2 DUOLINE J-55 EUE TBG SECURED WELL SDFN.
10/30/2011	6:00 7:30	1.50	INSTUB	28		P		CREW TRAVEL HELD SAFETY MEETING ON TRIPPING TUBING. FILLED JSA.
	7:30 9:30	2.00	INSTUB	39		P		CONTINUED RIH W/ 112-JTS 3 1/2 DUOLINE J-55 EUE TBG AND 2'-3 1/2 N-80 EUE TBG SUB.
	9:30 11:00	1.50	INSTUB	16		P		RD RIG FLOOR, ND BOPS NU WELLHEAD.
	11:00 13:00	2.00	INSTUB	06		P		CIRCULATE 130 BBLs PKR FLUID DOWN CSG.
	13:00 14:00	1.00	INSTUB	27		P		DROPPED BALL SET PKR. PRESSURE TEST CSG @ 1050 FOR 30 MINS NO LOSS.
	14:00 16:30	2.50	RDMO	02		P		RD RIG, TURNED WELL OVER TO PRODUCTION. MOVED TO THE 2-9B3 SDFN.

Division of Oil, Gas and Mining
OPERATOR CHANGE WORKSHEET (for state use only)

ROUTING
CDW

X - Change of Operator (Well Sold)

Operator Name Change/Merger

The operator of the well(s) listed below has changed, effective:

6/1/2012

FROM: (Old Operator): N3065- El Paso E&P Company, L.P. 1001 Louisiana Street Houston, TX. 77002 Phone: 1 (713) 997-5038	TO: (New Operator): N3850- EP Energy E&P Company, L.P. 1001 Louisiana Street Houston, TX. 77002 Phone: 1 (713) 997-5038
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CA No.				Unit:		N/A		
WELL NAME	SEC TWN RNG			API NO	ENTITY NO	LEASE TYPE	WELL TYPE	WELL STATUS
See Attached List								

OPERATOR CHANGES DOCUMENTATION

Enter date after each listed item is completed

- (R649-8-10) Sundry or legal documentation was received from the **FORMER** operator on: 6/25/2012
- (R649-8-10) Sundry or legal documentation was received from the **NEW** operator on: 6/25/2012
- The new company was checked on the **Department of Commerce, Division of Corporations Database** on: 6/27/2012
- Is the new operator registered in the State of Utah: _____ Business Number: 2114377-0181
- (R649-9-2) Waste Management Plan has been received on: Yes
- Inspections of LA PA state/fee well sites complete on: N/A
- Reports current for Production/Disposition & Sundries on: 6/25/2012
- Federal and Indian Lease Wells:** The BLM and or the BIA has approved the merger, name change, or operator change for all wells listed on Federal or Indian leases on: BLM N/A BIA Not Received
- Federal and Indian Units:**
The BLM or BIA has approved the successor of unit operator for wells listed on: N/A
- Federal and Indian Communization Agreements ("CA"):**
The BLM or BIA has approved the operator for all wells listed within a CA on: N/A
- Underground Injection Control ("UIC")** Division has approved UIC Form 5 Transfer of Authority to **Inject**, for the enhanced/secondary recovery unit/project for the water disposal well(s) listed on: 9/12/2012

DATA ENTRY:

- Changes entered in the **Oil and Gas Database** on: 9/24/2102
- Changes have been entered on the **Monthly Operator Change Spread Sheet** on: 9/24/2012
- Bond information entered in RBDMS on: 9/24/2012
- Fee/State wells attached to bond in RBDMS on: 9/24/2012
- Injection Projects to new operator in RBDMS on: 9/24/2012
- Receipt of Acceptance of Drilling Procedures for APD/New on: N/A

BOND VERIFICATION:

- Federal well(s) covered by Bond Number: 103601420
- Indian well(s) covered by Bond Number: 103601473
- (R649-3-1) The **NEW** operator of any state/fee well(s) listed covered by Bond Number 400JU0705
- The **FORMER** operator has requested a release of liability from their bond on: N/A

LEASE INTEREST OWNER NOTIFICATION:

- (R649-2-10) The **NEW** operator of the fee wells has been contacted and informed by a letter from the Division of their responsibility to notify all interest owners of this change on: 9/24/2012

COMMENTS:

Well Name	Sec	TWP	RNG	API Number	Enity Number	Lease	Well Tyoe	Well Status
UTE 1-14C6	14	030S	060W	4301330056	12354	Indian	WD	A
UTE TRIBAL 1-A	18	030S	060W	4301315122	99990	Fee	WD	A
LAKE FORK 2-23B4	23	020S	040W	4301330038	1970	Fee	WD	A
TEW 1-9B5	09	020S	050W	4301330121	1675	Fee	WD	A
RHOADES MOON 1-36B5	36	020S	050W	4301330289	4765	Fee	WD	A
G HANSON 2-4B3 SWD	04	020S	030W	4301330337	99990	Fee	WD	A
LDS CHURCH 2-27B5	27	020S	050W	4301330340	99990	Fee	WD	A
LINDSAY RUSSELL 2-32B4	32	020S	040W	4301330371	99996	Fee	WD	A
EHRICH 2-11B5	11	020S	050W	4301330391	99990	Fee	WD	A
LAWSON 1-21A1	21	010S	010W	4301330738	935	Fee	WI	A
DAVIS 1-33A1E	33	010S	010E	4304730384	805	Fee	WD	A
ALLRED 2-16A3	16	010S	030W	4301330361	99996	Fee	WD	I
BIRCH 2-35A5	35	010S	050W	4301330362	99996	Fee	WD	I

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

FORM 9

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill new wells, significantly deepen existing wells below current bottom-hole depth, reenter plugged wells, or to drill horizontal laterals. Use APPLICATION FOR PERMIT TO DRILL form for such proposals.

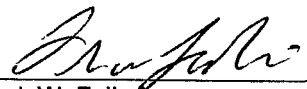
1. TYPE OF WELL OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER _____		5. LEASE DESIGNATION AND SERIAL NUMBER: Multiple Leases
2. NAME OF OPERATOR: El Paso E&P Company, L.P. Attn: Maria Gomez		6. IF INDIAN, ALLOTTEE OR TRIBE NAME:
3. ADDRESS OF OPERATOR: 1001 Louisiana CITY Houston STATE TX ZIP 77002 PHONE NUMBER: (713) 997-5038		7. UNIT or CA AGREEMENT NAME:
4. LOCATION OF WELL FOOTAGES AT SURFACE: See Attached		8. WELL NAME and NUMBER: See Attached
QTR/QTR, SECTION, TOWNSHIP, RANGE, MERIDIAN:		9. API NUMBER:
STATE: UTAH		10. FIELD AND POOL, OR WILDCAT: See Attached

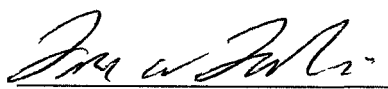
11. CHECK APPROPRIATE BOXES TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA			
TYPE OF SUBMISSION	TYPE OF ACTION		
<input checked="" type="checkbox"/> NOTICE OF INTENT (Submit in Duplicate) Approximate date work will start: _____	<input type="checkbox"/> ACIDIZE <input type="checkbox"/> ALTER CASING <input type="checkbox"/> CASING REPAIR <input type="checkbox"/> CHANGE TO PREVIOUS PLANS <input type="checkbox"/> CHANGE TUBING <input type="checkbox"/> CHANGE WELL NAME <input type="checkbox"/> CHANGE WELL STATUS <input type="checkbox"/> COMMINGLE PRODUCING FORMATIONS <input type="checkbox"/> CONVERT WELL TYPE	<input type="checkbox"/> DEEPEN <input type="checkbox"/> FRACTURE TREAT <input type="checkbox"/> NEW CONSTRUCTION <input type="checkbox"/> OPERATOR CHANGE <input type="checkbox"/> PLUG AND ABANDON <input type="checkbox"/> PLUG BACK <input type="checkbox"/> PRODUCTION (START/RESUME) <input type="checkbox"/> RECLAMATION OF WELL SITE <input type="checkbox"/> RECOMPLETE - DIFFERENT FORMATION	<input type="checkbox"/> REPERFORATE CURRENT FORMATION <input type="checkbox"/> SIDETRACK TO REPAIR WELL <input type="checkbox"/> TEMPORARILY ABANDON <input type="checkbox"/> TUBING REPAIR <input type="checkbox"/> VENT OR FLARE <input type="checkbox"/> WATER DISPOSAL <input type="checkbox"/> WATER SHUT-OFF <input checked="" type="checkbox"/> OTHER: Change of Name/Operator
<input type="checkbox"/> SUBSEQUENT REPORT (Submit Original Form Only) Date of work completion: _____			

12. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. Clearly show all pertinent details including dates, depths, volumes, etc.

Please be advised that El Paso E&P Company, L.P. (current Operator) has changed names to EP Energy E&P Company, L.P. (new Operator) effective June 1, 2012 and that EP Energy E&P Company, L.P. is considered the new operator of the attached well locations.

EP Energy E&P Company, L.P. is responsible under the terms and conditions of the lease(s) for the operations conducted upon leased lands. Bond coverage is provided by the State of Utah Statewide Blanket Bond No. 400JU0705, Bureau of Land Management Nationwide Bond No. 103601420, and Bureau of Indian Affairs Nationwide Bond No. 103601473.


Frank W. Falleri
Vice President
El Paso E&P Company, L.P.

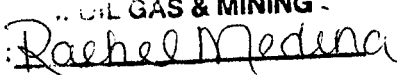

Frank W. Falleri
Sr. Vice President
EP Energy E&P Company, L.P.

NAME (PLEASE PRINT) Maria S. Gomez	TITLE Principal Regulatory Analyst
SIGNATURE 	DATE 6/22/2012

(This space for State use only)

APPROVED

SEP 24 2012

.. OIL GAS & MINING -


(5/2000)

(See Instructions on Reverse Side)

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JUN 25 2012

DIV OF OIL GAS & MINING

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

UIC FORM 5

TRANSFER OF AUTHORITY TO INJECT

Well Name and Number Lake Fork 2-23B4	API Number 4301330038
Location of Well Footage : 1985' FNL & 2131' FEL County : Duchesne QQ, Section, Township, Range: SWNE 23 2S 4W State : UTAH	Field or Unit Name Altamont/Bluebell Lease Designation and Number Fee

EFFECTIVE DATE OF TRANSFER: 6/1/2012

CURRENT OPERATOR

Company: El Paso E&P Company, L.P.
Address: 1001 Louisiana
city Houston state TX zip 77002
Phone: (713) 997-5038
Comments:

Name: Maria S. Gomez
Signature: *Maria S. Gomez*
Title: Principal Regulatory Analyst
Date: 9/11/2012

NEW OPERATOR

Company: EP Energy E&P Company, L.P.
Address: 1001 Louisiana
city Houston state TX zip 77002
Phone: (713) 997-5038
Comments:

Name: Maria S. Gomez
Signature: *Maria S. Gomez*
Title: Principal Regulatory Analyst
Date: 9/11/2012

(This space for State use only)

Transfer approved by: *David L. Jones*
Title: *UIC Geologist*

Approval Date: *9/19/2012*

Comments:

RECEIVED
SEP 12 2012

DIV. OF OIL, GAS & MINING